ORDER NO. SD7806-1396

Service Manual

FM/AM STEREO RECEIVER

SA-600A

(FEE)

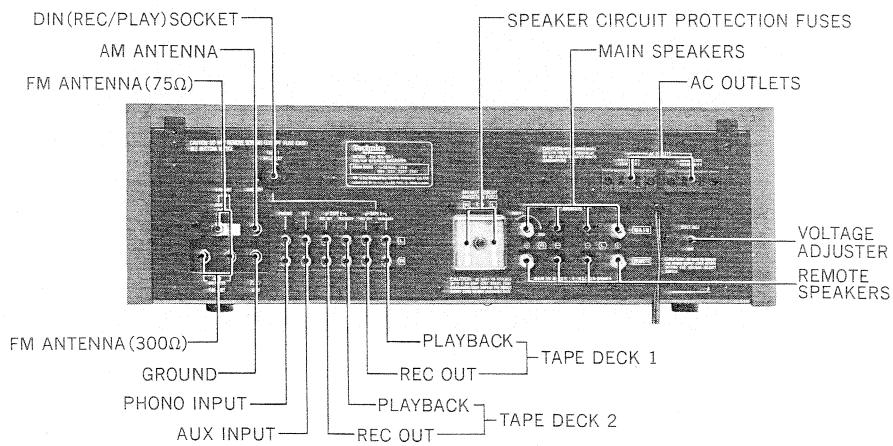
* The model SA-600A (FEE) is available in European Audio Club only.

For additional information, please refer to the service manual for Model No. SA-600

Notes: * This service manual included only the change of the **SA-600** service manual (ORDER NO. SD7806-1354)

* When servicing model **SA-600A** this service manual and **SA-600** (ORDER NO. SD7806-1354) service manual should be used together.

■ REAR PANEL TERMINAL VIEW



■ CHANGE OF SPECIFICATIONS

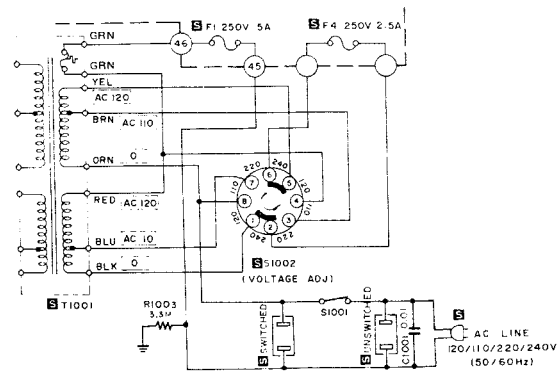
	SA-600 →	SA-600A
Power consumption	660W	173W
Dimensions (W x H x D)	450 x 149 x 329 mm (17 23/32" x 5 7/8" x 12 15/16")	486 x 157 x 329 mm (19 1/8" x 6 3/16" x 12 15/16")

Technics

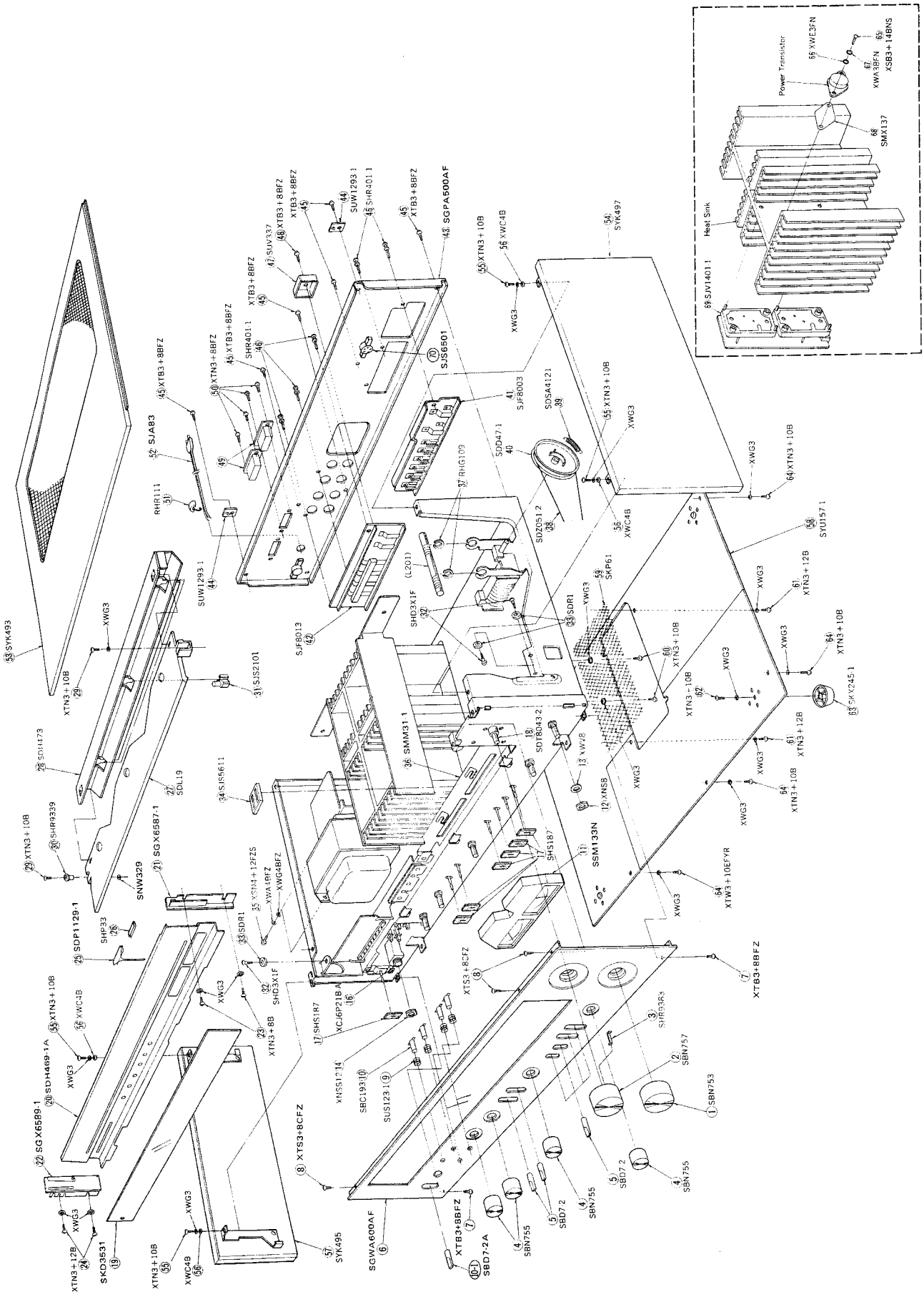
■ CHANGE OF REPLACEMENT PARTS LIST

Ref. No.	Change of Part No. SA-600 → SA-600A		Part Name & Description	Per Set (Pcs.)		Remarks
TRANSFORMERS						
T201	SLI7D103-M (XE) SLI7D101-M	SLI7D101-M	Transformer, AM IF (455 kHz)	1		
T1001	SLT5R31 SLT5R31-1 (XE)	SLT5R31	Transformer, Power Source	1		
COMPONENT COMBINATION						
Z302	EXA6YD04CL	EXA6YD03CL	Component Combination, 3.9kΩ (X2), 100kΩ (X2), 1500pF (X2)	1		
FUSES						
F1	XBA2C50TR0	XBA2E50NS5	Fuse, 5A (250V) Primary	1		
F2	XBA2C10TR0	XBA1E10NS5	Fuse, 1A (125V) Secondary	1		
F3	XBA2C16TR0	XBA1E16NS5	Fuse, 1.6A (125V) Secondary	1		
F4	XBA2C25TR0	XBA2K25NS5	Fuse, 2.5A (250V) Primary	1		
F5, 6	XBA2C40SS0	XBAS1A5001	Fuse, 5A (125V) Speaker Circuit	2		
SWITCH						
S1001	SSL103	SSL15	Switch, Power Source	1		
RESISTORS						
R701	ERD18FJ2R2	ERD18FAJ2R2	Carbon, 2.2Ω, 1/8W, ±5%	1		
R849, 850	ERD25TJ273	ERD25TJ223	Carbon, 22kΩ, 1/4W, ±5%	2		
R1003	–	ERC12ZGK335	Solid, 3.3MΩ, 1/2W, ±10%	1		
CAPACITORS						
C307, 308	ECQM1H333JZ	ECQM1H473JZ	Polyester, 0.047μF, 50V, ±5%	2		
C311, 312	ECKD1H331KB	ECKD1H271KB	Ceramic, 270pF, 50V, ±10%	1		
C701, 702	ECET55R153ZX	ECET55R153Y	Electrolytic, 15000μF, 55V	2		
C1001	–	ECQU1A103MC	Polyester, 0.01μF, 125VAC, ±20%	1		
ACCESSORIES						
A2	XBA2C40SS0	XBAS1A5001	Fuse, 5A (125V) Speaker Circuit	2		
A3	–	RJP74-1	Plug Adapter, AC Power	1		
A4	–	RJP75	Plug Adapter, AC Power	1		
PACKING PARTS						
P2	SPS1733 SPS1735 (XE, XSW)	SPS1623	Pad Rear Side	1		
P3	SPS1639 SPS1639-1 (XE, XSW)	SPS1501	Pad, Left or Right Side	1		
P4	SPS1641 SPS1641-1 (XE, XSW)	SPS1501	Pad, Right or Left Side	1		
P5	SPG1551 SPG1553 SPG1555 (XGF)	SPG1549	Carton Box	1		○
P6	SQF1935 (XE, XSW)	SQF1937	Instructions Book, Printed Matter	1		○

■ POWER SOURCE CIRCUITRY OF MODEL SA-600A



■ EXPLODED VIEWS



■ REPLACEMENT PARTS LIST

NOTE: 1. Part numbers are indicated on most mechanical parts.
Please use this part number for parts orders.

Ref. No.	Part No.	Part Name & Description	Per Set.	Remarks
		CABINET and CHASSIS PARTS		
1	SBN753	Knob, Volume	1	
2	SBN757	Knob, Tuning	1	
3	SHR9383	Spacer, Tuning Knob	1	
4	SBN755	Knob, Bass, Treble, Balance & Selector	4	
5	SBD7-2	Knob, Lever Switches	6	
6	SGWA600AF	Panel, Front Ass'y	1	○
7	XTB3+8BFZ	Screw, Front Panel M'tg	2	
8	XTS3+8CFZ	Screw, Front Panel M'tg	3	
9	SUS123-1	Spring, Push Switches	4	
10	SBC193	Button, Push Switches	4	
10-1	SBD7-2A	Knob, Power Switch	1	
11	SSM133N	Meter, Signal & Tuning	1	
12	XNS8	Nut, Volumes & Selector	5	
13	XWV8	Washer, Volumes & Selector	5	
14	XNSS12	Nut, Headphones Jack M'tg	1	
16	XCJ6P21B-A	Headphones Jack	1	
17	SHS187	Shading Cloth, Lever Switches	7	
18	SDT8043-2	Shaft, Tuning	1	*
19	SKD3531	Scale, Dial	1	*○
20	SDH469-1A	Plate, Dial	1	*○
21	SGX6587-1	Bracket, Dial Scale Right Side	1	○
22	SGX6589-1	Bracket, Dial Scale Left Side	1	○
23	XTN3+8B	Screw, Dial Scale Bracket M'tg	2	
24	XTN3+12B	Screw, Dial Scale Bracket M'tg	2	
25	SDP1129-1	Pointer, Dial	1	*○
26	SHP33	Sheet, Pointer Slider	1	
27	SDL19	Reflector Plate	1	
28	SDH473	Reflector Plate	1	*
29	XTN3+10B	Screw, Reflector Plate M'tg	2	
30	SHR9339	Spacer, Reflector Plate Screw	1	
31	SJS2101	Socket, Pilot Lamp	3	
32	SHD3X1F	Screw, Pulley M'tg	4	*
33	SDR1	Pulley, Dial Cord	4	
34	SJS5611	Connector, 6 pin	1	
35	XSN4+12FZS	Screw, Power Transformer M'tg	4	○
36	SMM31-1	Bracket, Meter	1	*○
37	RHG109	Rubber Cushion, AM Bar Antenna	2	
38	SDZ051-2	Cord, Dial 200cm (78-3/4")	1roll	
39	SDSA4121	Spring, Dial Cord	1	
40	SDD47-1	Drum, Variable Capacitor	1	
41	SJF8003	Terminal, Input & Antenna	1	
42	SJF8013	Terminal, Speakers	1	
43	SGPA600AF	Rear Panel (SPG1210-1A/SGT16970)	1	○
44	SUW1293-1	Metal Fitting, Top Board M'tg	2	*○
45	XTB3+8BFZ	Screw, Rear Panel & Metal Fitting M'tg	8	
46	SHR401-1	Latch, Speakers & Input Terminal M'tg	6	
47	SUV337	Cover, Speaker Fuses	1	*
48	XTB3+8BFZ	Screw, Speaker Fuses Cover M'tg	1	
49	SJS9205-1	Socket, AC Outlet	2	
50	XTN3+8BFZ	Screw, AC Outlet Socket M'tg	4	
51	RHR111	Bushing, AC Cord	1	
52	SJA83	AC Cord, Power Source	1	
53	SYK493	Top Board	1	○
54	SYK497	Side Board, Right Ass'y	1	○
55	XTN3+10B	Screw, Side Board M'tg	4	○
56	XWC4B	Washer, Cabinet	4	
57	SYK495	Side Board, Left Ass'y	1	○
58	SYU157-1	Bottom Board	1	*○
59	SKP61	Ventilation Plate	1	○
60	XTN3+10B	Screw, Ventilation Plate M'tg	2	
61	XTN3+12B	Screw, Ventilation Plate M'tg	2	
62	XTN3+10B	Screw, Set Foot M'tg	4	
63	SKX245-1	Foot, Set	4	
64	XTN3+10B	Screw, Bottom Board M'tg	7	
65	XSB3+14BNS	Screw, Power Transistors M'tg	8	
66	XWE3FN	Washer, Power Transistors Screw	8	
67	XWA3BFN	Washer (Spring), Power Transistors Screw	8	
68	SMX137	Mica Plate	4	○
69	SJV1401-1	Socket, Power Transistors	4	
70	SJS6501	Socket, DIN (REC/PLAY)	1	

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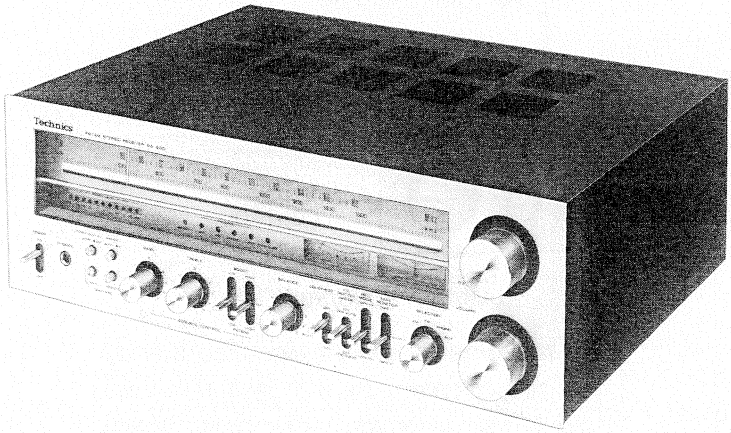
Service Manual

FM/AM STEREO RECEIVER

SA-600

(D), (DG), (XGH), (XGF), (XE), (XSW)



- The models SA-600 (D) and SA-600 (DG) are available in Scandinavia and European only.
- The model SA-600 (XGH) is available in Holland only.
- The model SA-600 (XGF) is available in France only.
- The model SA-600 (XSW) is available in Switzerland only.
- The model SA-600 (XE) is available in United Kingdom only.

* Cabinet colour differs according to destination.

TECHNICAL SPECIFICATIONS

Specifications are subject to change without notice for further improvement.

[DIN 45 500]

AMPLIFIER SECTION

1 kHz continuous power output both channels driven	2 x 95 W (4Ω), 2 x 77 W (8Ω)
40 Hz ~ 16 kHz continuous power output both channels driven	2 x 80 W (4Ω), 2 x 70 W (8Ω)
20 Hz ~ 20 kHz continuous power output both channels driven	2 x 80 W (4Ω), 2 x 70 W (8Ω)
Power bandwidth both channels driven at 4Ω	10 Hz ~ 35 kHz (−3 dB)
Total harmonic distortion	
rated power at 1 kHz	0.04% (4Ω, 8Ω)
rated power at 40 Hz ~ 16 kHz	0.04% (4Ω, 8Ω)
rated power at 20 Hz ~ 20 kHz	0.04% (4Ω, 8Ω)
half power at 20 Hz ~ 20 kHz	0.025% (8Ω)
half power at 1 kHz	0.008% (8Ω)
−26 dB power at 1 kHz	0.04% (4Ω)
50 mW power at 1 kHz	0.2% (4Ω)
Intermodulation distortion	
rated power at 250 Hz: 8 kHz = 4:1, 4Ω	0.04%
rated power at 60 Hz: 7 kHz = 4:1, SMPTE, 8Ω	0.04%
Damping factor	25 (4Ω), 50 (8Ω)
Input sensitivity and impedance	
PHONO	2.5 mV/47 kΩ
AUX	150 mV/33 kΩ
PLAYBACK (TAPE 1), REC/PLAY input	180 mV/39 kΩ
PLAYBACK (TAPE 2)	150 mV/33 kΩ
PHONO maximum input voltage (1 kHz, RMS)	150 mV
S/N	
rated power at 4Ω PHONO	70 dB (IHF, A: 78 dB)
AUX	88 dB (IHF, A: 95 dB)
−26 dB power at 4Ω PHONO	65 dB, AUX 75 dB
50 mW power at 4Ω PHONO	58 dB, AUX 58 dB
Frequency response PHONO	RIAA standard curve 30 Hz ~ 15 kHz, ±0.2 dB
AUX	20 Hz ~ 20 kHz, ±0.5 dB
	10 Hz ~ 40 kHz, −1 dB
Tone controls BASS	50 Hz, +10 dB ~ −10 dB
TREBLE	10 kHz, +10 dB ~ −10 dB
Low boost at tone controls "0" position	100 Hz, +6 dB
High boost at tone controls "0" position	10 kHz, +6 dB
Low filter	100 Hz, −6 dB/oct.
High filter	7 kHz, −6 dB/oct.
Loudness control (volume at −30 dB)	50 Hz, +9 dB
Output voltage and impedance	
REC OUT (TAPE 1,2)	150 mV
REC/PLAY output	30 mV/80 kΩ
Channel balance (250 Hz ~ 6300 Hz), AUX	±1.0 dB
Channel separation at 1 kHz, AUX	55 dB
Headphones output level and impedance	500 mV/330Ω
Load impedance MAIN or REMOTE	4 ~ 16Ω
MAIN + REMOTE	8 ~ 16Ω

FM TUNER SECTION

Frequency range	88 ~ 108 MHz
Antenna terminals	300Ω (balanced), 75Ω (unbalanced)
Sensitivity (±40 kHz deviation)	
S/N 30 dB	1.9μV (300Ω), 1.3μV (75Ω)
S/N 26 dB	1.7μV (300Ω), 1.2μV (75Ω)
S/N 20 dB	1.5μV (300Ω), 0.9μV (75Ω)
IHF usable sensitivity	1.9μV (IHF '58)
IHF S/N 46 dB stereo quieting sensitivity	22μV (75Ω)
Total harmonic distortion MONO	0.15%
STEREO	0.3%
S/N (±40 kHz deviation) MONO	60 dB (IHF: 75 dB)
STEREO	56 dB (IHF: 70 dB)
Frequency response	20 Hz ~ 20 kHz, +1 dB, −2 dB
	20 Hz ~ 14 kHz, ±1.5 dB
Alternate channel selectivity	70 dB
Capture ratio	1.2 dB
Image rejection at 98 MHz	70 dB
IF rejection at 98 MHz	90 dB
Spurious response rejection at 98 MHz	80 dB
AM suppression	55 dB
Stereo separation 1 kHz	45 dB, 10 kHz 35 dB
Leak carrier 19 kHz	−33 dB (−40 dB, IHF)
38 kHz	−48 dB (−50 dB, IHF)
Limiting point	1.2μV
Bandwith IF amplifier	180 kHz
FM demodulator	1000 kHz
Channel balance (250 Hz ~ 6300 Hz)	±1.5 dB

AM TUNER SECTION

Frequency range	525 ~ 1605 kHz
Sensitivity (S/N 20 dB)	30μV, 300μV/m
Selectivity	30 dB
Image rejection at 1000 kHz	45 dB
IF rejection at 1000 kHz	40 dB

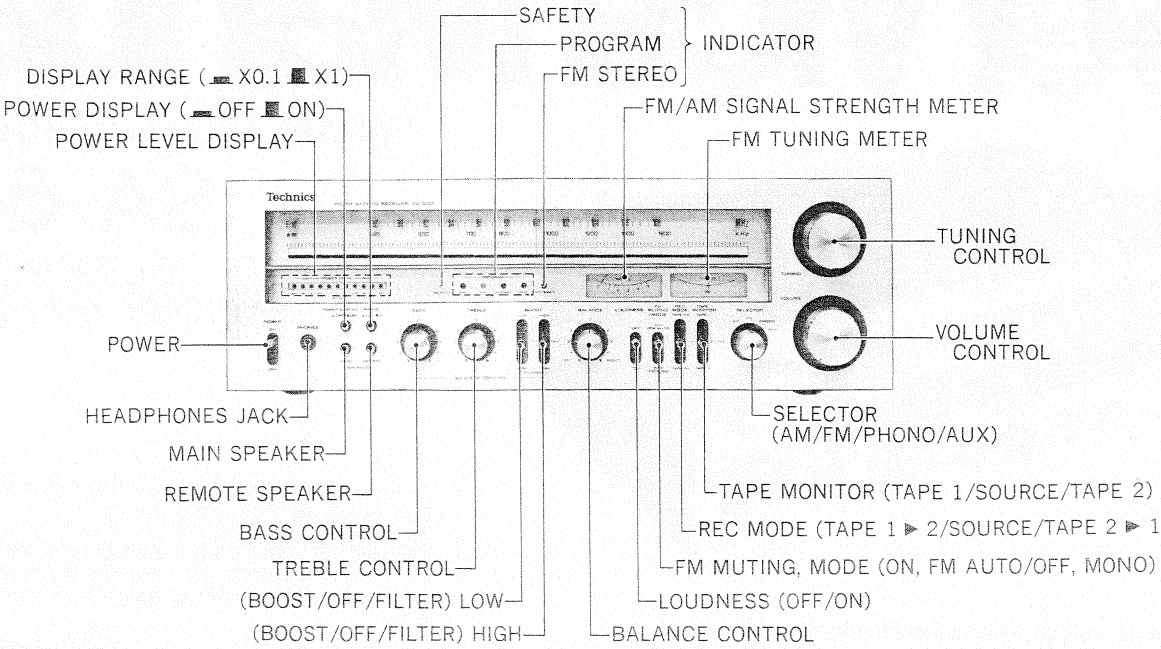
GENERAL

Power consumption	660 W
Power supply (50 Hz/60 Hz)	110V/120V/220V/240V
Dimensions (W x H x D)	450 x 149 x 329 mm (17 23/32" x 5 7/8" x 12 15/16")
Weight	12.6 kg (27.8 lb.)

Technics

Matsushita Electric Trading Co., Ltd
P.O. Box 288, Central Osaka Japan

■ LOCATION OF CONTROLS (Front panel view)



TECHNISCHE DATEN

Spezifikationen können infolge von Verbesserungen ohne Ankündigung geändert werden.

[DIN 45 500]

VERSTÄRKERTEIL

Dauertonleistung bei 1 kHz	
beide Kanäle angesteuert	2 x 95 W (4Ω), 2 x 77 W (8Ω)
Dauertonleistung bei 40 Hz ~ 16 kHz	
beide Kanäle angesteuert	2 x 80 W (4Ω), 2 x 70 W (8Ω)
Dauertonleistung bei 20 Hz ~ 20 kHz	
beide Kanäle angesteuert	2 x 80 W (4Ω), 2 x 70 W (8Ω)
Leistungsbandbreite	
beide Kanäle angesteuert bei 4Ω	10 Hz ~ 35 kHz (–3 dB)
Klirrfaktor	
Nennausgangsleistung bei 1 kHz	0,04% (4Ω, 8Ω)
Nennausgangsleistung bei 40 Hz ~ 16 kHz	0,04% (4Ω, 8Ω)
Nennausgangsleistung bei 20 Hz ~ 20 kHz	0,04% (4Ω, 8Ω)
Halber Ausgangsleistung bei 20 Hz ~ 20 kHz	0,025% (8Ω)
Halber Ausgangsleistung bei 1 kHz	0,008% (8Ω)
–26 dB Ausgangsleistung bei 1 kHz	0,04% (4Ω)
50 mW Ausgangsleistung bei 1 kHz	0,2% (4Ω)
Intermodulationsverzerrung	
Nennausgangsleistung bei 250 Hz: 8 kHz = 4:1, 4Ω	0,04%
Nennausgangsleistung bei 60 Hz: 7 kHz = 4:1, 8Ω	0,04%
Dämpfungsfaktor	25 (4Ω), 50 (8Ω)
Eingangsempfindlichkeit und Impedanz	
PHONO	2,5 mV/47 kΩ
AUX	150 mV/33 kΩ
PLAYBACK (TAPE 1), REC/PLAY Eingang	180 mV/39 kΩ
PLAYBACK (TAPE 2)	150 mV/33 kΩ
PHONO Maximale Eingangsspannungen (1 kHz RMS)	150 mV
Rauschabstand	
Nennausgangsleistung bei 4Ω	PHONO 70 dB (IHF, A: 78 dB)
	AUX 88 dB (IHF, A: 95 dB)
–26 dB Ausgangsleistung bei 4Ω	PHONO 65 dB
	AUX 75 dB
50 mW Ausgangsleistung bei 4Ω	PHONO 58 dB, AUX 58 dB
Frequenzgang PHONO	nach RIAA 30 Hz ~ 15 kHz, ±0,2 dB
AUX	20 Hz ~ 20 kHz, ±0,5 dB
	10 Hz ~ 40 kHz, –1 dB
Klangregler BÄSSE	50 Hz, +10 dB ~ –10 dB
HÖHEN	10 kHz, +10 dB ~ –10 dB
Akustikregler (Tonregler in "0"-Position)	
LOW BOOST 100 Hz, +6 dB,	HIGH BOOST 10 kHz, +6 dB
Tiefenfilter	100 Hz, –6 dB/oct.
Höhenfilter	7 kHz, –6 dB/oct.
Gehörichtige Lautstärke (Lautstärke bei –30 dB)	50 Hz, +9 dB
Ausgangsspannungen und Impedanz	
REC OUT (TAPE 1, 2)	150 mV
REC/PLAY Aufnahme	30 mV/80 kΩ
Kanalabweichung (250 Hz ~ 6300 Hz), AUX	±1,0 dB
Kanaltrennung bei 1 kHz, AUX	55 dB
Kopfhörerpegel und Ausgangsimpedanz	500 mV/330Ω
Ausgangsimpedanz MAIN oder REMOTE	4 ~ 16Ω
MAIN und REMOTE	8 ~ 16 Ω

UKW-TUNERTEIL

Frequenzgang	88 ~ 108 MHz
Antennenanschluss	300Ω (symmetrisch), 75Ω (unsymmetrisch)
Empfindlichkeit (±40 kHz Hub)	
30 dB Rauschabstand	1,9μV (300Ω), 1,3μV (75Ω)
26 dB Rauschabstand	1,7μV (300Ω), 1,2μV (75Ω)
20 dB Rauschabstand	1,5μV (300Ω), 0,9μV (75Ω)
Empfindlichkeit nach IHF	1,9μV (IHF '58)
46 dB Rauschabstand utilisable Empfindlichkeit nach IHF	22μV (75Ω), STEREO
Klirrfaktor	MONO 0,15%, STEREO 0,3%
Rauschabstand (±40 kHz Hub)	MONO 60 dB (IHF: 75 dB), STEREO 56 dB (IHF: 70 dB)
Frequenzgang	20 Hz ~ 20 kHz, +1 dB, –2 dB
	20 Hz ~ 14 kHz, ±1,5 dB
Selektivität	70 dB
Gleichwellen-Selektion	1,2 dB
Spiegelfrequenzunterdrückung bei 98 MHz	70 dB
ZF-Festigkeit bei 98 MHz	90 dB
Unselektivität-Dämpfung bei 98 MHz	80 dB
AM-Unterdrückung	55 dB
Kanaltrennung	1 kHz 45 dB, 10 kHz 35 dB
Hilfsträgerdämpfung (Pilotton)	19 kHz –33 dB (–40 dB, IHF)
	38 kHz –48 dB (–50 dB, IHF)
Begrenzungseinsatz	1,2μV
Bandbreite ZF-Verstärker	180 kHz
Ratiodetektor	1000 kHz
Kanalabweichung (250 Hz ~ 6300 Hz)	±1,5 dB

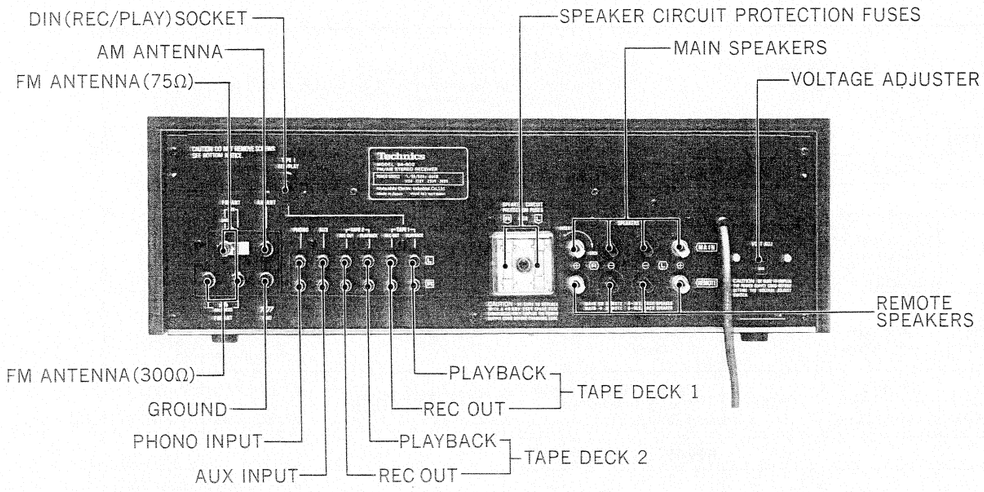
AM-TUNERTEIL

Frequenzang	525 ~ 1605 kHz
Empfindlichkeit (20 dB Rauschabstand)	30μV, 300μV/m
Selektivität	30 dB
Spiegelfrequenz-Selektion bei 1000 kHz	45 dB
ZF-Festigkeit bei 1000 kHz	40 dB

ALLGEMEINE DATEN

Leistungsaufnahme	660 W
Netzspannung (50 Hz/60 Hz)	110V/120V/220V/240V
Abmessungen (B x H x T)	450 x 149 x 329 mm
Gewicht	12.6 kg

■ LOCATION OF CONTROLS (Rear panel view)



CARACTERISTIQUES TECHIQUES Sujet à changement sans préaris.

[DIN 45 500]

PARTIE AMPLIFICATEUR

1 kHz, puissance continue les 2 canaux modulés	2 x 95 W (4Ω), 2 x 77 W (8Ω)
40 Hz ~ 16 kHz, puissance continue les 2 canaux modulés	2 x 80 W (4Ω), 2 x 70 W (8Ω)
20 Hz ~ 20 kHz, puissance continue les 2 canaux modulés	2 x 80 W (4Ω) 2 x 70 W (8Ω)
Largeur de bande de puissance les 2 canaux modulés à 4 Ω	10 Hz ~ 35 kHz (–3dB)
Distorsion harmonique totale pour la puissance nominale, 1 kHz	0,04% (4Ω, 8Ω)
pour la puissance nominale, 40 Hz ~ 16 kHz	0,04% (4Ω, 8Ω)
pour la puissance nominale, 20 Hz ~ 20 kHz	0,04% (4Ω, 8Ω)
pour la demi-puissance nominale, 20 Hz ~ 20 kHz	0,025% (8Ω)
pour la demi-puissance nominale, 1 kHz	0,008% (8Ω)
pour une puissance mesurée de –26 dB, 1 kHz	0,04% (4Ω)
pour une puissance mesurée de 50 mW, 1 kHz	0,2% (4Ω)
Distorsion d'intermodulation pour la puissance nominale, 250 Hz: 8 kHz = 4:1, 4Ω	0,04%
pour la puissance nominale, 60 Hz: 7 kHz = 4:1, 8Ω	0,04%
Facteur d'amortissement	25 (4Ω), 50 (8Ω)
Sensibilité et impédance d'entrée PHONO	2,5 mV/47 kΩ
AUX	150 mV/33 kΩ
PLAYBACK (TAPE 1), REC/PLAY entrée	180 mV/39 kΩ
PLAYBACK (TAPE 2)	150 mV/33 kΩ
Tension maximum d'entrée PHONO (1 kHz, eff.)	150 mV
Rapport signal/bruit pour la puissance nominale, 4Ω PHONO	70 dB (IHF, A: 78 dB)
AUX	88 dB (IHF, A: 95 dB)
pour une puissance mesurée de –26 dB, 4Ω PHONO	65 dB AUX 75 dB
pour une puissance mesurée de 50mW, 4Ω PHONO	58 dB AUX 58 dB
Réponse de fréquence PHONO Courbe standard RIAA	30 Hz ~ 15 kHz, ±0,2 dB
AUX	20 Hz ~ 20 kHz, ±0,5 dB
	10 Hz ~ 40 kHz, –1 dB
Réglage de la tonalité BASS (graves)	50 Hz, +10dB ~ –10 dB
TREBLE (aigus)	10 kHz, +10dB ~ –10 dB
Commandes acoustiques (commandes de tonalité sur "0") LOW BOOST 100 Hz, +6 dB,	HIGH BOOST 10 kHz, +6 dB
Filtre de grave	100 Hz, –6 dB/oct.
Filtre d'aigu	7 kHz, –6 dB/oct.
Correction physiologique (volume à –30 dB)	50 Hz, +9 dB
Tension de sortie REC OUT (TAPE 1, 2)	150 mV
REC/PLAY (sortie)	30 mV/80 kΩ
Equilibrage de canaux (250 Hz ~ 6300 Hz), AUX	±1,0 dB
Ecart canaux à 1 kHz, AUX	55 dB
Niveau des écouteurs et impédance de sortie	500 mV/330Ω
Impédance de charge PRINCIPALE ou ELOIGNEE	4 ~ 16Ω
PRINCIPALE + ELOIGNEE	8 ~ 16Ω

PARTIE TUNER FM

Gamme reçue	88 ~ 108 MHz
Impédance d'antenne	300Ω (symétrique) 75Ω (asymétrique)
Sensibilité (±40 kHz déviation)	
Signal/bruit 30 dB	1,9μV (300Ω), 1,3μV (75Ω)
Signal/bruit 26 dB	1,7μV (300Ω), 1,2μV (75Ω)
Signal/bruit 20 dB	1,5μV (300Ω), 0,9μV (75Ω)
IHF Sensibilité	1,9μV (IHF '58)
IHF Sensibilité pour S/B 46 dB	22μV (75Ω), STÉRÉO
Distorsion harmonique totale	MONO 0,15% STEREO 0,3%
Signal/bruit (±40 kHz déviation) MONO	60 dB (IHF: 75 dB)
STEREO	56 dB (IHF: 70 dB)
Réponse de fréquence	20 Hz ~ 20 kHz, +1 dB, –2 dB
	20 Hz ~ 14 kHz, ±1,5 dB
Sélectivité en canaux alternés	70 dB
Taux de capture	1,2 dB
Réjection de fréquence image à 98 MHz	70 dB
Réjection FI à 98 MHz	90 dB
Réjection de réception non sélective à 98 MHz	80 dB
Suppression AM	55 dB
Séparation stéréophonique 1 kHz	45 dB, 10 kHz 35 dB
Courant porteur de dispersion 19 kHz	–33 dB (–40 dB, IHF)
38 kHz	–48 dB (–50 dB, IHF)
Point limite	1,2μV
Largeur de bande Amplificateur FI	180 kHz
Démodulateur FM	1000 kHz
Equilibrage de canaux (250 Hz ~ 6300 Hz)	±1,5 dB

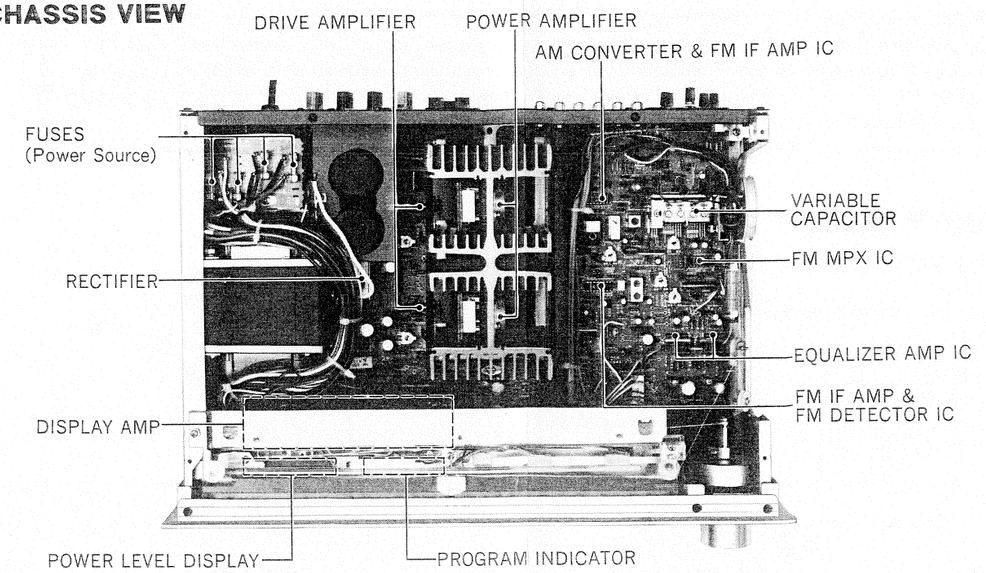
PARTIE TUNER AM

Gamme reçue	525 ~ 1605 kHz
Sensibilité (Rapport S/B 20 dB)	30μV, 300μV/m
Sélectivité	30 dB
Réjection de fréquence image à 1000 kHz	45 dB
Réjection FI à 1000 kHz	40 dB

GENERALITES

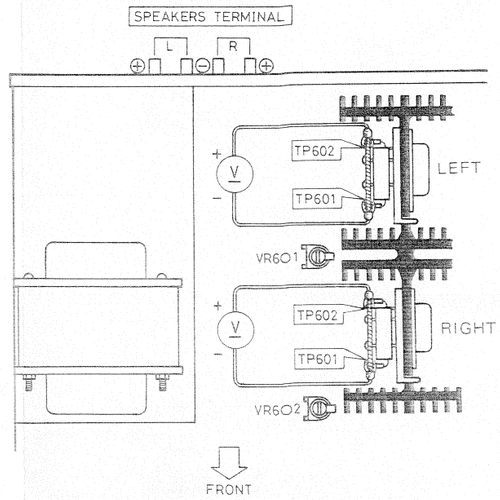
Consommation	660 W
Alimentation (50 Hz/60 Hz)	110V/120V/220V/240V
Dimensions (L x H x P)	450 x 149 x 329 mm
Poids	12.6 kg

■ CHASSIS VIEW



■ ALIGNMENT INSTRUCTIONS

- **Main amplifier (ICQ) alignment.**
  1. The "ICQ" adjustment should be started about 5 minutes. After setting the power switch to the ON position.
  2. Left channel
     * Connect DC voltmeter between TP601 and TP602.
     * Adjust VR601 to 8 mV on DC voltmeter indication.
  3. Right channel
     * Connect DC voltmeter between TP601 and TP602.
     * Adjust VR602 to 8mV on DC voltmeter indication.



■ ANWEISUNGEN FÜR ABGLEICHUNG

- **Abgleichung des Hauptverstärkers (ICQ)**
  1. Die "ICQ" Regulierung soll in ca. 5 Minuten begonnen werden, nachdem der Hauptschalter auf ON eingestellt worden ist.
  2. DC-Voltmeter zwischen TP601 und TP602 des linken Kanals (LEFT) anschließen.
  3. VR601 auf 8 mV der DC-Voltmeteranzeige regulieren.
  4. DC-Voltmeter zwischen TP601 und TP602 des rechten Kanals (RIGHT) anschließen.
  5. VR602 auf 8 mV der DC-Voltmeteranzeige regulieren.

■ INSTRUCTIONS D'ALIGNMENT

- **Alignement de l'amplificateur principal (ICQ)**
  1. L'alignement "ICQ" doit être commencé environ 5 mn après avoir placé le commutateur d'alimentation sur la position ON.
  2. Brancher le volt-mètre de courant continu entre TP601 et la TP602 du canal gauche (LEFT) .
  3. Ajuster VR601 à 8 mV sur l'indication du volt-mètre de courant continu.
  4. Brancher le volt-mètre de courant continu entre TP601 et la TPP602 du canal droit (RIGHT).
  5. Ajuster VR602 à 8 mV sur l'indication du volt-mètre de courant continu.

■ **NOTE** The unit is provided with the speaker circuit protection fuses at the right and left channels respectively. The fuse is to prevent the power transistor from destruction, should the speaker terminals be short-circuited. Accordingly, if the unit fails to function upon completion of the speaker connections, check the speaker circuit protection fuses first of all for possible blowing.

■ TO REMOVE CABINET

1. Remove the two cabinet mounting screws (nos ①, ② screws in fig. 1).
2. Remove the four cabinet mounting screws (nos ①～④ screws in fig. 2).
3. Sliding it toward Ⓐ direction and lifting it upward Ⓑ direction as shown in fig. 2.
4. When the cabinet is installed, insert the metal fitting of cabinet (as shown in fig. 3) into the space between the front panel and light reflector.

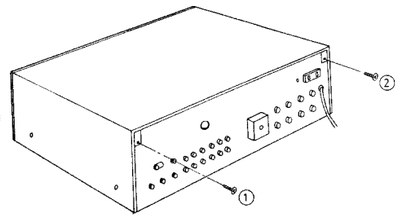


Fig. 1

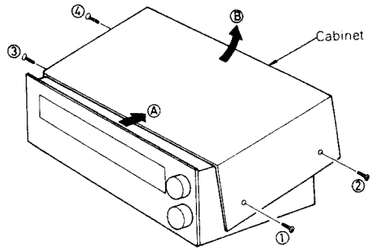


Fig. 2

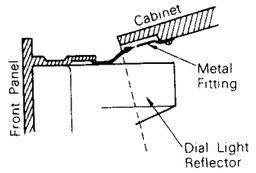
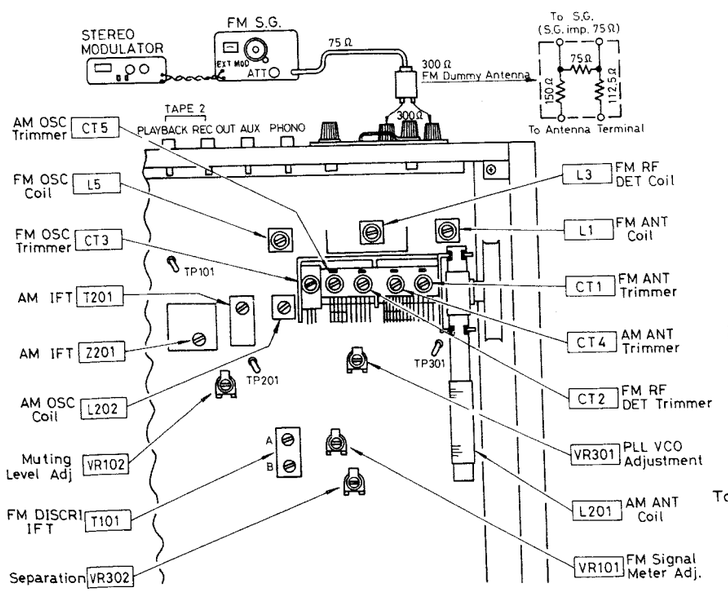
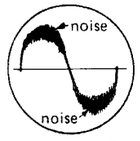


Fig. 3

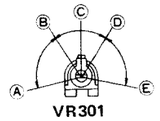
■ ALIGNMENT POINTS





(SINE WAVE)

Fig. 4 (Abb. 4)



VR301

A – B, D – E: Stereo OFF Position.
B – D: Stereo ON Position (indicator lighting).
C: Adjust Point of Pilot Circuit.

Fig. 5 (Abb. 5)

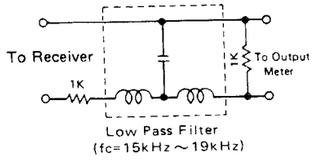


Fig. 6 (Abb. 6)

■ ALIGNMENT INSTRUCTIONS (FM/AM tuner circuitly) ENGLISH

Notes:
1. Loudness switch ····· OFF
2. Band selector switch ····· AM/FM (FM, RF FM-IF)
3. FM muting/mode switch ·····OFF/FM MONO
4. Speaker switch ·····ON
5. Tape monitor switch ····· SOURCE
6. Filter switch ····· OFF
7. Maintain line voltage at rated voltage.
8. Output of signal generator should be no higher than necessary to obtain an output reading.

	SIGNAL GENERATOR CONNECTION	SIGNAL GENERATOR FREQUENCY	DIAL SETTING	INDICATOR (AC VTVM or SCOPE) (DISTORTION METER)	ADJUSTMENT POINTS	REMARKS
	AM ALIGNMENT					
1	High side through 0.001μF to **AM** antenna trimmer terminal. Common to chassis.	455kHz (30% Mod. with 400Hz) (For United Kingdom to 470kHz)	Point of non-inter ference	Connect VTVM or scope to **TP201.** through 0.1μF	T201 (1st IFT) Z201 (2nd IFT)	●Adjust for maximum output.
2	Fashion loop of several turns of wire and radiate signal into loop of receiver	600kHz (30%Mod. with 400Hz)	600kHz	Connect VTVM or scope to speaker terminals of receiver.	L202 (OSC Coil) L201 (ANT Coil)	●Adjust for maximum output. Adjust L201 by moving coil bobbin along ferrite core.
3	Fashion loop of several turns of wire and radiate signal into loop of receiver	1500kHz (30%Mod.) with 400Hz)	1500kHz	Connect VTVM or scope to speaker terminals of receiver.	CT5 (OSC Trimmer) CT4 (ANT Trimmer)	●Adjust for maximum output. ●Repeat steps (2) and (3)
	FM-IF ALIGNMENT					
4		No Signal	Point of non-inter ference.	Tuning meter of set.	T101 (DISCRI IFT) (A) Orange Core	●FM muting/mode switch to ON/FM AUTO. ●Adjust for center position of tuning meter.
	FM-RF ALIGNMENT					
5	Connect to FM 300Ω antenna terminal through FM dummy antenna.	90MHz (100%Mod. with 400Hz)	90MHz	Connect scope to speaker terminals of receiver.	L5 (OSC Coil) L3 (RF-DET Coil) L1 (ANT Coil)	●FM muting/mode switch to OFF/FM MONO. ●Adjust for maximum amplitude and symmetrical curve. (Refer to fig. 4).
6	Connect to FM 300Ω antenna terminal through FM dummy antenna.	106MHz (100%Mod. with 400Hz)	106MHz	Connect scope to speaker terminals of receiver.	CT3 (OSC Trimmer) CT2 (RF DET Trimmer) CT1 (ANT Trimmer)	●Adjust for maximum amplitude and symmetrical curve. ●Repeat steps (5) and (6).
	FM MONO DISTORTION ALIGNMENT					
7	Connect to FM 300Ω antenna terminal through FM dummy antenna. Apply 60 dB to set.	100MHz (100%Mod. with 400Hz)	100MHz	Connect distortion meter to speaker terminals of receiver.	T101 (DISCRI IFT) (B)· Green Core	●Adjust for minimum distortion of left output. ●Repeat steps (4) and (7).
	FM MUTING LEVEL ALIGNMENT					
8	Connect to FM 300Ω antenna terminal through FM dummy antenna. Apply 16dB(6.3μV)to set.	100MHz (100%Mod with 400Hz)	100MHz	Connect VTVM or scope to speaker terminals.	VR102	●FM muting/mode switch to "ON/FM AUTO. ●Adjust so that output can be obtained.
	FM SIGNAL METER ALIGNMENT					
9	**1** Apply 100MHz FM signal of 100dB (400Hz 30% modulation) to FM 300Ω antenna terminal through FM dummy antenna. **2** Tuning at 100MHz. **3** Adjust **VR101** for about 4.7 point of signal meter indication.					
	FM MPX PILOT ALIGNMENT					
10	Using a frequency counter: **1** 100MHz Non-modulated mono signal applied to set. (Apply 60dB) **2** FM muting/mode switch to "ON/FM AUTO" **3** Connect frequency counter to **TP301** through resistor (100kΩ) **4** Adjust **VR301** to 19kHz, ±30Hz.			Using alternate system: **1** Apply stereo signal from generator or stereo station to receiver. **2** Adjust **VR301** until stereo indicator lights up. Cement arm of **VR301** as shown in fig. 4.		

Notes:
1. Stereo modulator ····· ● Connect stereo modulator output to EXT MOD terminal of signal generator. ● Pilot signal modulation to "10%"
2. FM signal generator ····· ● Frequency approximatery 100MHz/Output level to "72dB (IHF)" ● Modulation mode to "FM"
3. Selector switch to "FM" 4. FM muting/mode switch to "ON/FM AUTO"

	FM SIGNAL GENERATOR CONNECTION	STEREO MODULATOR MODE & MOD RATE	INDICATOR (AC VTVM)	ADJUSTMENT POINT	REMARKS
	FM STEREO SEPARATION ALIGNMENT				
11	FM 300Ω antenna terminals through FM dummy antenna.	(1kHz 30% Modulation) MODE **L** (and R) Pilot signal to "ON"	Connect VTVM to speaker terminals through low pass filter. (Refer to fig. 5)	VR302	●Tuning at 100MHz. ●Make adjustment so that, when the antenna input is subjected to **L** modulation (or **R** modulation), **R** channel output (or **L** channel output) becomes minimum.

■ ANWEISUNGEN FÜR ABGLEICHUNG (UKW/AM-Tunerkreis) ▬ DEUTSCH ▬

(Für Deutshland)

Anmerkungen:
1. Loudness-Schalter ..... OFF
2. Bereichsschalter ..... { AM (AM Abgleich) / FM (FM Abgleich)
3. FM Muting/mode-Schalter ..... OFF/FM MONO
4. Lautsprecher-Schalter ..... ON
5. Tape/Monitor-Umschalter ..... SOURCE
6. Filter-Schalter ..... OFF
7. Die Netzspannung auf ihren Sollwert einstellen.
8. Der Ausgang des Meßsenders darf nicht höher sein als unbedingt notwendig für eine gute Ablesung.

	AM/UKW MESSENDER ANSCHLUSS	AM/UKW MESSENDER FREQUENZ	SKALENZEIGERINSTELLUNG DES TUNER	ANZEIGE (Wechselstrom Röhrenvoltmeter oder Oszillograph ozw. Klirrfaktor-Meßgerät	ABGLEICHSPUNKTE	BEMERKUNGEN
	AM-ABGLEICH					
1	Heißes Ende des Meßsenders über einen 0.001μF Kondensator an den AM Antenneneingang schließen. Kaltes Ende an Masse.	455kHz (400Hz Modulat., 30%)	Kein Empfang	Röhrenvoltmeter oder Oszillograph über den Lautsprecher schließen.	T201 (1. IFT) Z201 (2. IFT)	• Auf max. Ausgang abgleichen.
2	Das Meßsendersignal induktiv in den Tuner speisen. Hierzu behelfsmäßig eine Rahmenantenne fertigen und an den Eingang schließen.	600kHz (400Hz Modulat., 30%)	600kHz	Röhrenvoltmeter oder Oszillograph über den Lautsprecher schließen.	L202 (Osc. Spule) L201 (Ant. Spule)	• Auf max. Ausgang abgleichen. • L201 wird abgeglichen, indem die Spule am Ferritstab. entlanggeschoben wird.
3	Das Meßsendersignal induktiv in den Tuner speisen, Hierzu behelfsmäßig eine Rahmenantenne fertigen und an den Eingang schließen.	1500kHz (400Hz Modulat., 30%)	1500kHz	Röhrenvoltmeter oder Oszillograph über den Lautsprecher schließen.	CT5 (Osc. Trimmer) CT4 (Ant. Trimmer)	• Auf max. Ausgang abgleichen. • Schritt (2) und (3) sind zu wiederholen.
	UKW ZF-ABGLEICH					
4		Kein Signal	Kein Empfang	Abstimmanzeige.	T101 (Diskriminator IFT) [A]	• FM Muting-Schalter auf ON stellen. • Den Abstimmungsanzeiger auf den zentrum Wert einstellen.
	UKW HF-ABGLEICH					
5	Meßsender über eine Kunstantenne an den UKW-Antenneneingang schließen.	87.5MHz (400Hz Modulat., 100%)	87.5MHz (Frequenz Min.)	Röhrenvoltmeter oder Oszillograph über den Lautsprecher schließen.	L5 (Osc. Spule)	• FM Muting-Schalter auf OFF stellen. • Auf max. Ausgang abgleichen.
6	Meßsender über eine Kunstantenne an den UKW-Antenneneingang schließen.	90MHz (400Hz Modulat., 100%)	90MHz	Röhrenvoltmeter oder Oszilograph über den Lautsprecher schließen.	L3 (Det. Spule) L1 (Ant. Spule)	• Auf max. Amplitude bei entsprechender Linearität abgleichen. (Vgl. Abb. 4)
7	Meßsender über eine Kunstantenne an den UKW-Antenneneingang schließen.	106MHz (400Hz Modulat., 100%)	106MHz	Röhrenvoltmeter oder Oscillograph über den Loutsprecher schließen.	CT3 (Osc. Trimmer) CT2 (Det. Trimmer) CT1 (Ant. Trimmer)	• Auf max. Amplitude bei entsprechender Linearität abgleichen. (Vgl. Abb. 4) • Schritt (5), (6) und (7) sind zu wiederholen.
	ABGLEICH AUF MIN. VERZERRUNG IN STELLUNG UKW-MONO					
8	Meßsender über eine Kunstantenne an den UKW-Antenneneingang schließen.	100MHz (400Hz Modulat., 100%)	100MHz	Klirrfaktor-Meßbrücke über den Lautsprecher schlieben.	T101 (Diskriminator IFT) [B]	• Auf min. Verzerrung auf der Klirrfaktor-Meßbürcke abgleichen. • Schritt (4) und (8) sind zu wiederholen.
	UKW-MUTING-ABGLEICH					
9	Meßsender über eine Kunstantenne an den UKW-Antenneneingang schließen. Meßsender auf 16 dB (6.3μV) einstellen.	100MHz (400Hz Modulat., 100%)	100MHz	Röhrenvoltmeter oder Oszillograph über den Lautsprecher schließen.	VR102	• Muting Schalter auf "ON" stellen. • So einstellen, daß ein Ausgang zu vernehmen ist.
	UKW-FELDSTÄRKEANZEIGE-ABGLEICH					
10	Meßsender über eine Kunstantenne an den UKW-Antenneneingang schließen. Meßender für 100 dB (IHF) (ca. 100mV) einstellen.	100MHz (400Hz Modulat., 30%)	100MHz	Feldstärkenanzeige	VR101	• VR101 auf ca. "4.7" der Feldstärkean zeige einstellen.

UKW-STEREO-DEKODER-ABGLEICH

	Unter Verwendung eines Zählers	Alternativ-Meßmethode
11	1. Unmoduliertes Mono-Signal 100 MHz in das Gerät speisen. 2. FM Muting-Schalter auf "ON /FM AUTO" stellen. 3. Zähler über einen Widerstand 100K ohm an **TP301** schließen. 4. **VR301** auf 19kHz ±30Hz einstellen.	1. Stereosignal entweder von einem Stereogenerator . oder einem Sender einspeisen. 2. **VR301** so einstellen, bis die Stereolampe auf leuchtet. Schleifer von **VR301** sichern, wie in Abb. 5 gezeigt.

KANALTRENNUNG-ABGLEICH

Anmerkungen:
1. Stereo-Modulator ..... Ansgang des Stereo-Modulators an den Eingang EXT MOD des Meßsenders schließen. Eingebauter Oszillator ..... 1kHz/Pilotton-Modulation 10%
2. UKW Meßsender ..... Auf etwa 100MHz einstellen. Ausgangspegel 72dB (IHF). Modulation FM
3. Bereichsschalter ..... FM
4. Muting/Mode-Schalter ..... ON/FM AUTO

	ANSCHLUSS DES UKW MESSENDERS	STEREO MODULATOR MODE oder MOD. RATE	ANZEIGE (Röhrenvoltmeter oder Oszillograph)	ABGLEICHSPUNKTE	ANMERKUNGEN
12	Meßsender über eine Kunstantenne an den UKW-Antenneneingang schließen.	**L** (und R) Modulation 30%	Röhrenvoltmeter oder Oszillograph über Tiefpassfilter an den Tuner-Ausgang schließen. Vgl. Abb. 6.	VR302	• Auf min. Ausgang **rechter** (und linker) abgleichen.

■ INSTRUCTIONS D'ALIGNEMENT (Circuit de Tuner FM/AM) ▬ FRANÇAIC ▬

Notes:
1. Commutateur de physiologique (loudness) ..... OFF
2. Sélecteur de gamme ..... { AM (Alignement AM) / FM (Alignement FM)
3. Commutateur de silencieux ..... OFF/FM MONO
4. Commutateur d'enceintes ..... ON
5. Commutateur de contrôle auditif ..... SOURCE (relâchée)
6. Commutateur de filter ..... OFF
7. Conserver la tension du secteur à la tension nominale.
8. Le signal du générateur ne doit pas être plus élevé qu'il n'est nécessaire à obtenir une lecture en sortie.

	AM/FM GENERATEUR BRANCHMENT	AM/FM GENERATEUR FREQUENCE	AIGUILLE SUR LE CADRAN	INDICATEUR(C.A. VOLTMETRE ELECTRONIQUE OSCILLOS COPE OU DISTORSIONMETRE)	POINTS DE REGLAGE	OBSERVATIONS
	ALIGNEMENT AM					
1	Côté chaud, à travers 0.001μF, sur le trimmer de l'antenne AM, commum an shâssis	455kHz (modulé à 30% par 400Hz)	Point sans signal	Branchez un voltmètre électronique ou un oscilloscope sur les bornes de haut-parleur de l'ampli-tuner	T201 (1 transfo FI) Z201 (2 transfo FI)	• Réglez au maximum de signal de sortie.
2	Faire une boucle de quelgues tours et rayonner le signal dans le cadre du l'ampli-tuner	600kHz (modué à 30% par 400Hz)	600kHz	Branchez un voltmètre électronique ou un oscilloscope sur les bornes de haut-parleur de l'ampli-tuner	L202 (bobine OSC) L201 (bobine ANT)	• Réglez au maximum de signal de sortie. Réglez L201 en déplaçant la bobine le long du noyau de ferrite.
3	Faire une boucle de quelgues tours et rayonner le signal dans le cadre du l'ampli-tuner.	1500kHz (modulé à 30% par 400Hz)	1500kHz	Branchez un voltmètre électronique ou un oscilloscope sur les bornes de haut-parleur de l'ampli-tuner	CT5 (trimmer OSC) CT4 (trimmer ANT)	• Réglez au maximum de signal de sortie. • Recommencez les étapes (2) et (3).
	ALIGNEMENT FI-FM					
4		Sans signal	point sans signal	Indicateur d'accord de l'appareil	T101 (Transfo FI discri.) [A]	• Commutateur de silencieux sur ON. • Réglez pour atteindre position médiane sur l'indicateur d'accord.
	ALIGNEMENT RF-FM					
5	Branchez sur la prise d'antenne FM à travers une antenne fictive FM.	90MHz (modulé à 100% par 400Hz)	90MHz	Branchez un voltmètre électronique ou un oscilloscope sur les bornes de haut-parleur de l'ampli-tuner	L5 (bobine OSC) L3 (bobine DET) L1 (bobine ANT)	• Commutateur de silencieux sur OFF. • Régler au maximum d'amplitude et de symétrie. (Voir fig. 7)
6	Branchez sur la prise d'antenne FM à travers une antenne fictive FM.	106MHz (modulé à 100% par 400Hz)	106MHz	Branchez un voltmètre électronique ou un oscilloscope sur les bornes de haut-parleur de l'ampli-tuner	CT3 (trimmer OSC) CT2 (trimmer DET) CT1 (trimmer ANT)	• Régler au maximum d'amplitude et de symétrie. (Voir fig. 7) • Recommencez les étapes (5) et (6)
	REGLAGE DE LA DISTORSION FM EN MONO					
7	Branchez sur la prise d'antenne FM à travers une antenne fictive FM.	100MHz (modulé à 100% par 400Hz)	100MHz	Branchez un distorsio métre sur les bornes de haut-parleur de l'appareil.	T101 (Transfo FI discri.) [B]	• Réglez au minimum d'indication du distorsio-mètre. Recommencez les étapes (4) et (7).
	REGLAGE DU SEUIL DU SILENCIEUX D'ACCORD					
8	Branchez sur la prise d'antenne FM à travers une antenne fictive FM. Niveau de sortie du générateur 16 dB (6.3μV).	100MHz (modulé à100% par 400Hz)	100MHz	Branchez un voltmètre électronique ou un oscilloscope sur les bornes de haut-parleur de l'ampli-tuner	VR102	• Commutateur de silencieux sur "ON" • Régler pour obtenir une lecture en sortie.
	REGLAGE DE L'INDICATEUR D'ACCORD FM					
9	Branchez sur la prise d'antenne FM à travers une antenne fictive FM. Niveau de sortie du générateur 100 dB (100mV).	100MHz (modulé à 100% par 400Hz)	100MHz	Indicateur d'intensité	VR101	• Réglez VR101 pour obtenir env. "4.7" points sur l'échelle d'intensité.

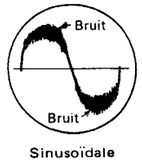
ALIGNEMENT DU PILOTE MULTIPLEX FM

	Avec un fréquencemétre	Par un outre système
10	1. Signal mono 100 MHz non modulé appliqué à l'appareil. 2. Commutateur de silencieux sur "ON/FM AUTO" 3. Branchez le fréquencemètre sur **TP301** à travers une résistance de 100kΩ. 4. Réglez **VR301** sur 19kHz ±30Hz.	1. Appliquez à l'appareil un signal stéréo provenant d'un générateur ou de la réception d'un émetteur. 2. Réglez **VR301** jusqu à ce que l'indicateur de stéréophonic s'allume. Collez le curseur de **VR301** comme indiqué sur la fig. 8.

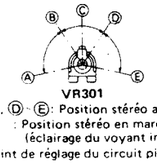
REGLAGE DE LA SEPARATION DES CANAUX

Notes:
1. Modulateur stéréo ..... Branchez sa sortie sur la prise EXT. MOD. du générateur. OSC interne ..... 1kHz Modulation du signal pilote 10%
2. Générateur de signal ..... Fréquence env. 100MHz, niveau de sortie 72dB (IHF), genre de modulation sur FM.
3. Commutateur de gamme .... FM 4. Commutateur de silencieux..... ON/FM AUTO

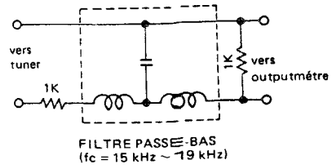
	BRANCHEMENT DU GENERATEUR DE SIGNAL	MODE DU MODULATEUR STEREO ET TAUX DE MODULATION	INDICATEUR (VOLTMETRE ELECTRONIQUE OU OSCILLOSCOPE)	POINTS DE REGLAGE	OBSERVATIONS
11	Borne d'antenne FM à travers antenne fictive.	**Gauche** (et droite) à 30% de modulation.	Sur les bornes de haut-parleur à travers un filtre passe-bas, voir fig. 9.	VR302	• Réglez au minimum de sortie **droite** (et gauche)



Sinusoïdale



VR301
Ⓐ-Ⓑ, Ⓓ-Ⓔ: Position stéréo arrêt
Ⓑ-Ⓓ : Position stéréo en marche (éclairage du voyant indicateur)
Ⓒ : Point de réglage du circuit pilote



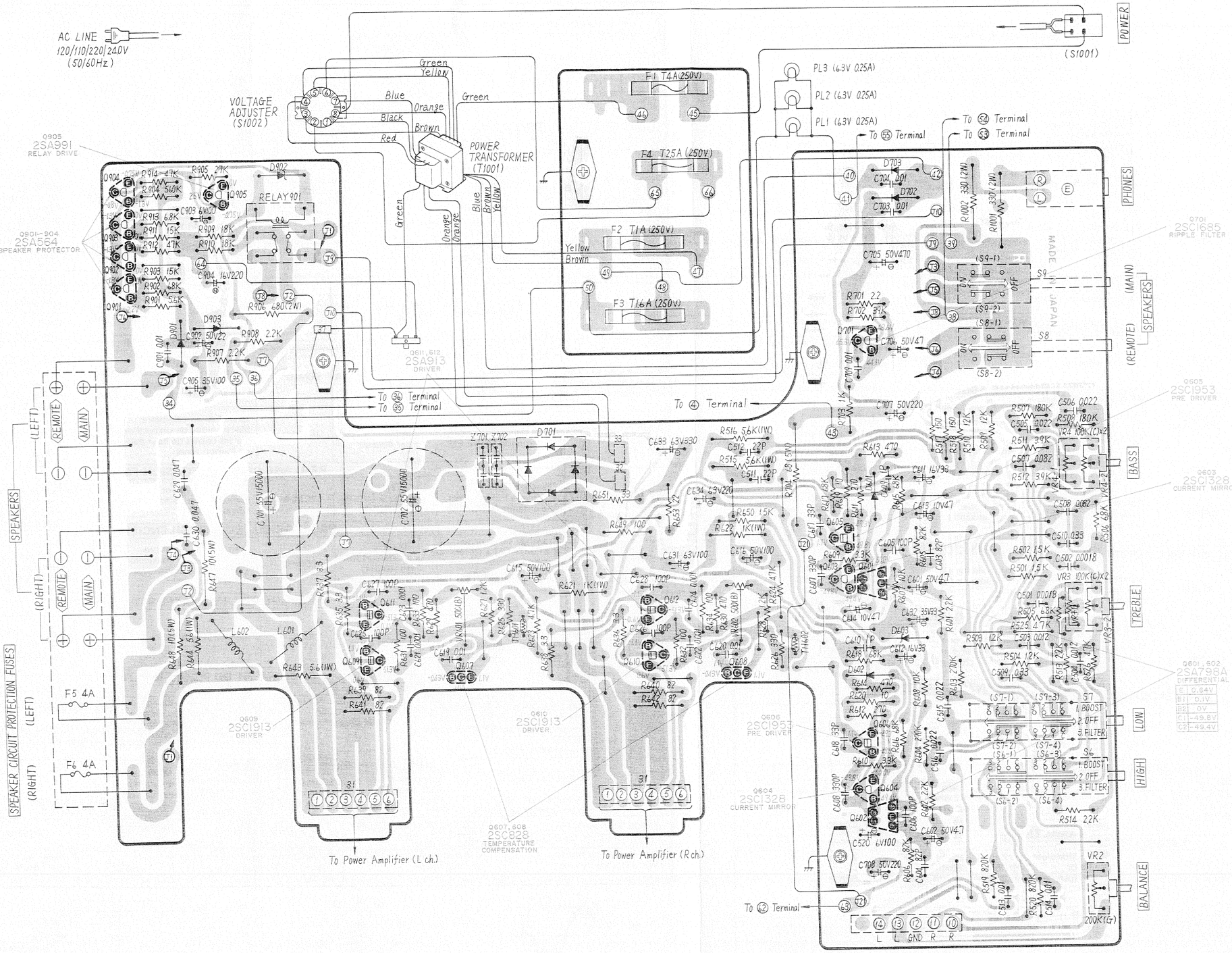
FILTRE PASSE-BAS (fc = 15 kHz ~ 19 kHz)

Fig. 7

Fig. 8

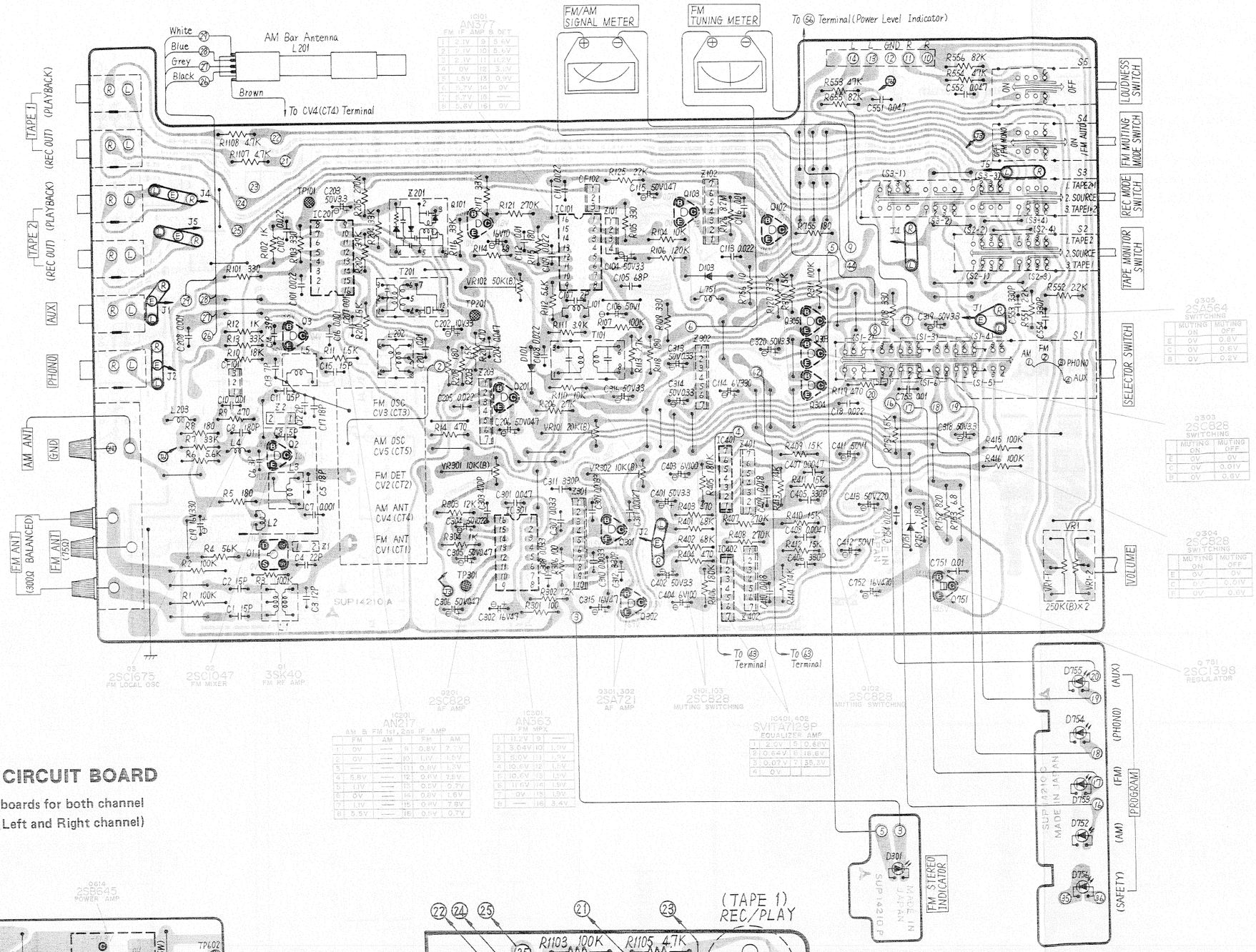
Fig. 9

■ MAIN AMPLIFIER & POWER SUPPLY CIRCUIT BOARD



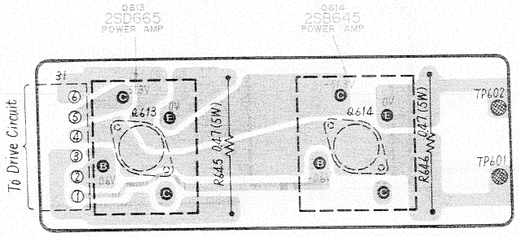
■ FM/AM TUNER AND EQUALIZER CIRCUIT BOARD

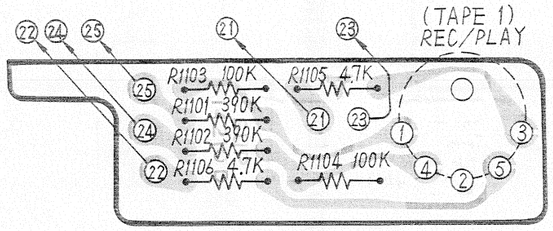
Earth (Ground) Lines



■ POWER AMPLIFIER CIRCUIT BOARD

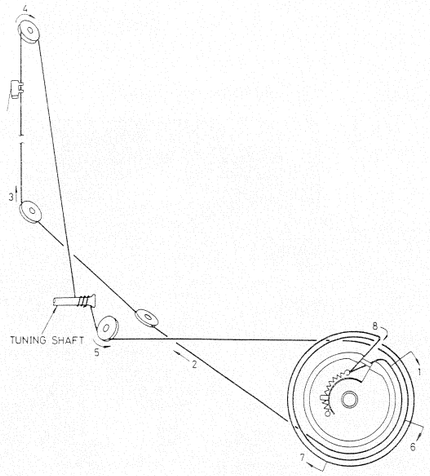
- Using same printed wiring boards for both channel (Left and Right channel)



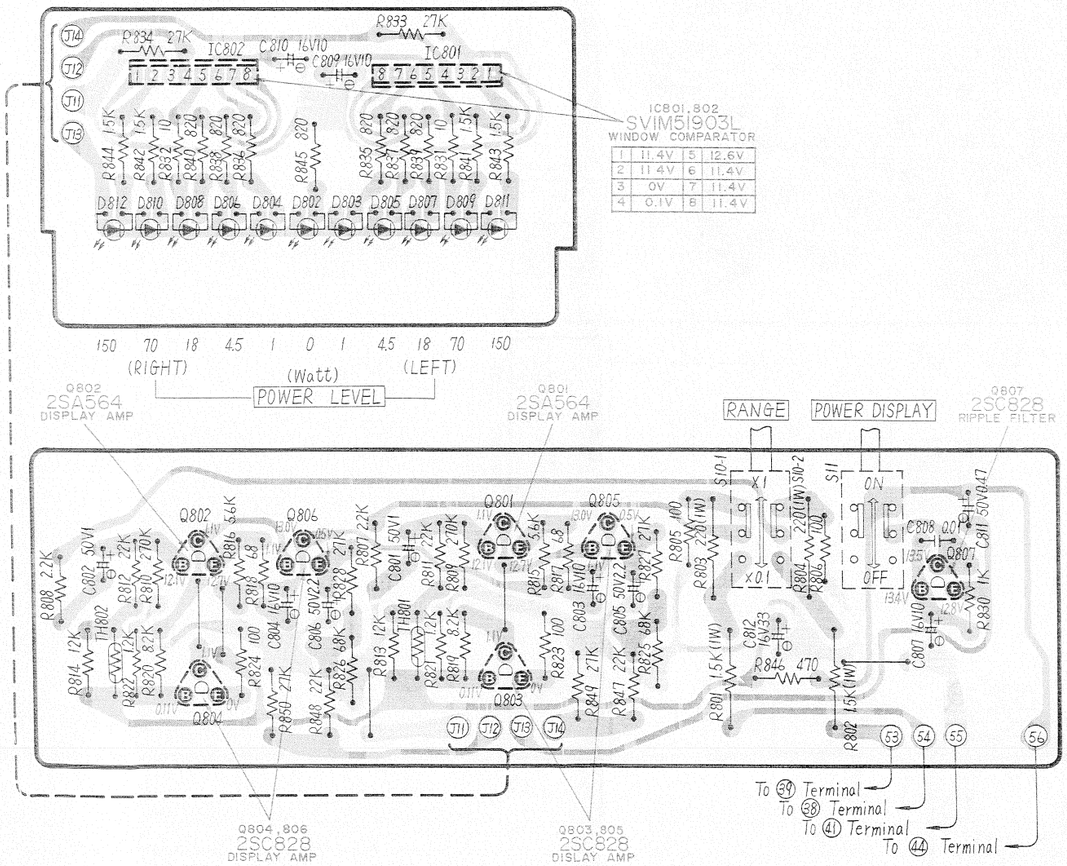


■ DIAL CORD INSTALLATION GUIDE

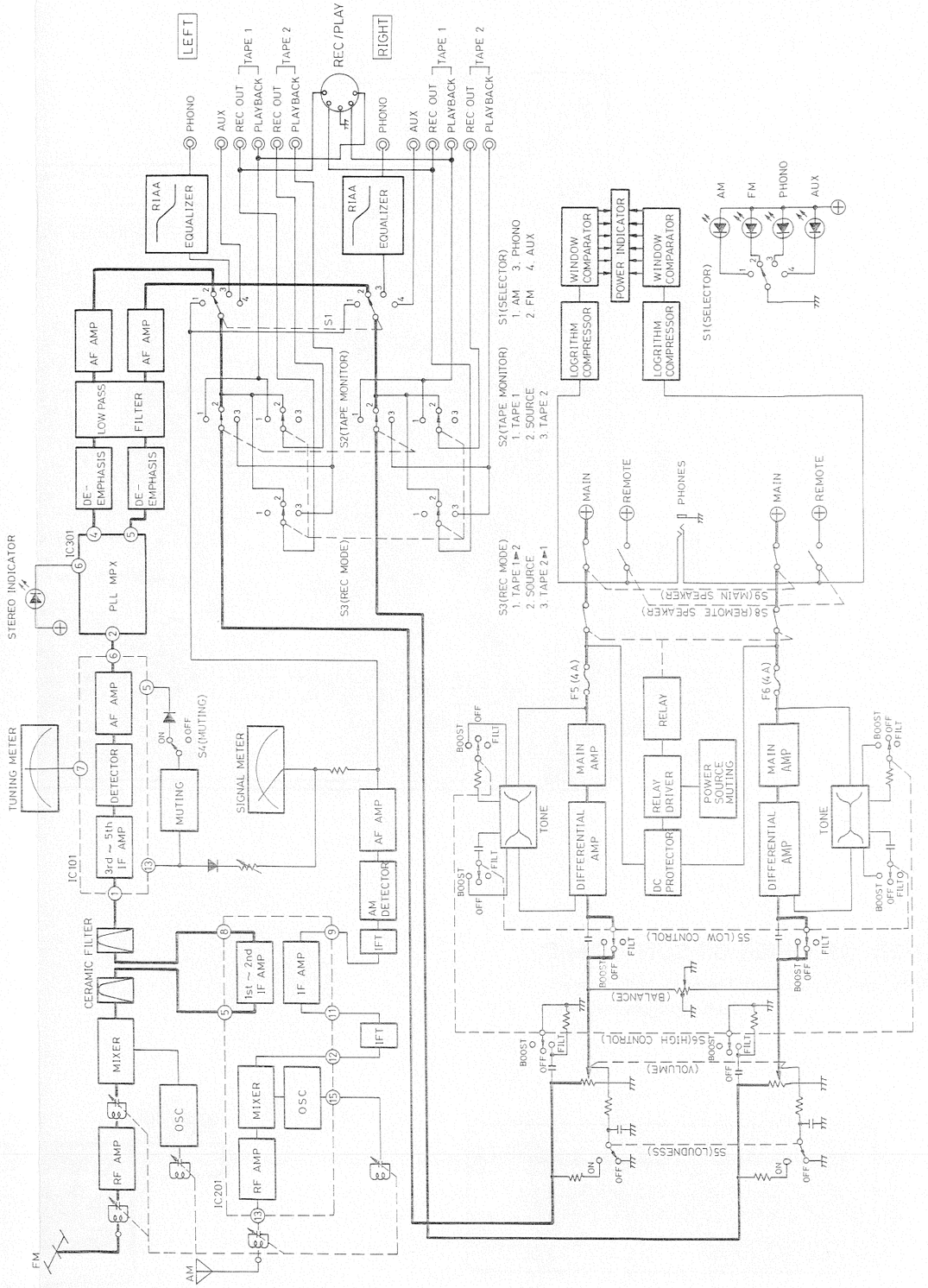
- For threading a fresh cord, proceed as follows.
  1. Prepare a fresh cord more than 200cm(78-3/4") in length.
  2. Bring the variable capacitor into a state where the drum is completely turned to the right (maximum capacity and lowest frequency for the variable capacitor).
  3. Direct the cord in the order from 1 to 8.
  4. Stretch the cord in such a tension as the spring length is elongated by 1.5 times that of the original state.
  5. Fix the knot of the cord with the bond.



■ POWER LEVEL DISPLAY CIRCUIT BOARD



■ BLOCK DIAGRAM



■ REPLACEMENT PARTS LIST

NOTES 1:
1. Part numbers are indicated on most mechanical parts Please use this part number for parts orders.
2. **S** indicates that only parts specified by the manufacturer be used for safety.

Ref. No.	Part No.		Part Name & Description	Per Set	Remarks
INTEGRATED CIRCUITS					
IC101	AN377		IC, FM IF Amplifier & FM Detector	1	
IC201	AN217P-BB		IC, FM IF Amplifier & AM Converter	1	
IC301	AN363		IC, FM Multiplex	1	
IC401, 402	SVITA7129P		IC, Equalizer Amplifier	2	
IC801, 802	SVIM51903L		IC, Power Display Window Comparator	2	○
TRANSISTORS					
Q1	3SK40-M		Transistor, FM RF Amplifier [FET]	1	
Q2	**2SC1047-C**		Transistor, FM Mixer (Use in ranks C or D)	1	
Q3	2SC1675-L1		Transistor, FM Local Oscillator	1	
Q101, 102, 103, 201	**2SC1328-T**		Transistor, Muting Switch & AF Amplifier (Use in ranks S, T or U)	4	
Q301, 302	**2SA902S-F**		Transistor, AF Amplifier (Use in ranks F or G)	2	
Q303, 304	**2SC1328-T**		Transistor, Muting Switching (Use in ranks S, T or U)	2	
Q305	**2SA666AI-R**		Transistor, Muting Switching (Use in ranks P, Q or R)	1	
Q601, 602	**2SA798A-G2**		Transistor, Differential Amplifier (Use in ranks F2 or G2)	2	
Q603, 604	**2SC1328-T**		Transistor, Carrent Mirror (Use in ranks S, T or U)	2	
Q605, 606	2SC1953-R		Transistor, Pre-Drive Amplifier (Use in ranks Q, R or S)	2	
Q607, 608	**2SC828A-R**		Transistor, Temperature Compensation (Use in ranks P, Q or R)	2	
Q609, 610	2SC1913-Q		Transistor, Driver Amp. (Use in ranks P, Q or R) } Use pair ranks	2	
Q611, 612	2SA913-Q		Transistor, Driver Amp. (Use in ranks P, Q or R) } Use pair ranks	2	
Q613 (X2)	2SD665-R		Transistor, Power Amp. (Use in ranks R or O) } Use pair ranks	2	○
Q614 (X2)	2SB645-R		Transistor, Power Amp. (Use in ranks R or O) } Use pair ranks	2	○
Q701	2SC1685-T		Transistor, Ripple Filter (Use in ranks S or T)	1	
Q751	**2SC1398-Q**		Transistor, Regulator (Use in ranks P, Q or R)	1	
Q801, 802	**2SA666AI-R**		Transistor, Display Amplifier (Use in ranks P, Q or R)	2	
Q803, 804, 805, 806, 807	**2SC1328-T**		Transistor, Display Amplifier & Ripple Filter (Use in ranks S, T or U)	5	
Q901, 902, 903, 904	**2SA666AI-R**		Transistor, Speaker Protection (Use in ranks P, Q or R)	4	
Q905	2SA991-F		Transistor, Relay Driver (Use in ranks E or F)	1	○

Ref. No.	Part No.		Part Name & Description	Per Set	Remarks
DIODES					
D101	SVDKB262E		Diode, Meter Detector	1	
D103	MA150		Diode, Switching	1	
D301	LN25RP		Light Emitting Diode, Stereo Indicator	1	
D601, 602	MA27B		Diode, Current Mirror	2	
D603	SVDMZ324		Diode, 24V Zener	1	
D701	SVDS10VB20F	**S**	Rectifier	1	○
D702, 703	**SM112**	**S**	Rectifier	2	
D751	SVDMZ414		Diode, 14V Zener	1	
D752~D755	LN25RP		Light Emitting Diode, Program Indicator	4	
D756	LN35BP		Light Emitting Diode, Safety Indicator	1	
D802	LN36BP		Light Emitting Diode, Green	1	
D803 ~ D808	LN46YP		Light Emitting Diode, Orange	6	
D809 ~ D812	LN26RP		Light Emitting Diode, Red	4	
D901	**SM112**	**S**	Rectifier	1	
	SVDMZ424B		Diode, Relay Pulse Killer	1	
D903	SVDMZ330B		Diode, 30V Zener	1	
COILS and TRANSFORMERS					
L1	SLA4P25		Coil, FM Antenna	1	
L2	**RLQY25S2**		Coil, Choke	1	
L3	SLD4P13		Coil, FM RF Detector	1	
L4	**RLQY15G5**		Coil, Choke	1	
L5	SLO4P31		Coil, FM Local Oscillator	1	
L101	SLQX180-2		Coil, Choke	1	
L201	SLF2C11		Coil, AM Bar Antenna	1	
L202	SLO2C3-P		Coil, AM Local Oscillator	1	
L203	SLQX101-2D		Coil, Choke	1	
L601, 602	SLQY15G-3U		Coil, Power Amplifier Output	2	
L751	SLQX101-2D		Coil, Choke	1	
T101	SLI4D513-3		Transformer, FM IF Detector	1	
T201 (XE) only	SLI7D103-M		Transformer, AM IF (470kHz)	1	
T201	SLI7D101-M		Transformer, AM IF (455kHz)	1	
T1001	SLT5R31	**S**	Transformer, Power Source	1	○
T1001 (XE) only	SLT5R31-1	**S**	Transformer, Power Source	1	○
COMPONENT COMBINATIONS					
Z1	EXRP102Z223C		Component Combination, 22kΩ & 0.001μF	1	
Z2	EXRP103P102C		Component Combination, 1kΩ & 0.01μF	1	
Z101	EXF3SL04C		Component Combination, 0.01μF (X3)	1	
Z102	EXBH85006K		Component Combination, 10kΩ, 22kΩ 33kΩ, 56kΩ, 220kΩ	1	
Z201	SLI9F101-Z		Component Combination, AM Detector	1	
Z203	EXBH85005K		Component Combination, 1.5kΩ, 3.3kΩ, 47kΩ, 56kΩ, 180kΩ	1	
Z301	EXBH88007K		Component Combination, 390Ω (X2), 10kΩ (X4), 1.5kΩ (X2)	1	
Z302	EXA6YD04CL		Component Combination, 3.9kΩ (X2), 100kΩ (X2), 820pF (X2)	1	
Z401, 402	EXA6SD01C		Component Combination, 100Ω, 330Ω, 68pF, 150pF, 680pF (X2)	2	
Z701, 702	EXRFS203ZS		Component Combination, 0.01μF, (X2)	2	
CERAMIC FILTERS					
CF101, 102	SVFE107MS8-A		Ceramic Filter, Red, 10.7MHz	each 2	
	SVFE107MS8-B		Ceramic Filter, Blue, 10.67MHz		
	SVFE107MS8-C		Ceramic Filter, Orange, 10.73MHz		
	SVFE107MS8-D		Ceramic Filter, Black, 10.64MHz		
	SVFE107MS8-E		Ceramic Filter, White, 10.76MHz		
	(Use pair ranks as same as CF101 and CF102.)				

Ref. No.	Part No.		Part Name & Description	Per Set	Remarks
THERMISTORS					
TH601, 602	RRT251		Thermistor, Main Amplifier	2	
TH801, 802	ERTD2FHL103S		Thermistor, Display Amplifier	2	
VARIABLE RESISTORS					
VR1	EWF2F25BF5S		Volume Control, 250kΩ (B)	1	○
VR2	EVH63F25G25S		Balance Control, 200kΩ (G)	1	○
VR3, 4	EWK32F25C15S		Bass & Treble Control, 100kΩ (C)	2	○
VR101	**EVLS3AA00B24**		Meter Adjustment, 20kΩ (B)	1	
VR102	**EVLS3AA00B54**		Muting Level Adjustment, 50kΩ (B)	1	
VR301	EVTS3MA00B14		PLL VCO Adjustment, 10kΩ (B)	1	
VR302	**EVLS3AA00B14**		Separation Adjustment, 10kΩ (B)	1	
VR601, 602	**EVLS3AA00B52**		Power Amp ICQ Adjustment, 500Ω (B)	2	
VARIABLE CAPACITOR					
CV1 ~ CV5 (CT1 ~ CT5)	ECVC751K144A		Variable Capacitor, with Trimmer	1	
LAMPS					
PL1, 2, 3	XAMR62S	S	Lamp, Dial (6.3V 0.25A)	3	
FUSES					
F1	XBA2C50TR0	S	Fuse, T5A (250V), Primary	1	
F2	XBA2C10TR0	S	Fuse, T1A (250V), Secondary	1	
F3	XBA2C16TR0	S	Fuse, T1.6A (250V), Secondary	1	
F4	XBA2C25TR0	S	Fuse, T2, 5A (250V), Primary	1	
F5, 6	XBA2C40SS0	S	Fuse, 4A (250V), Speaker Circuit	2	
RELAY					
RLY901	SSY19-1	S	Relay, Speaker Protection	1	
SWITCHES					
S1	ESRM164F25E		Switch, Program Selector	1	
S2	SSL117		Switch, Tape Monitor	1	
S3	SSL115		Switch, Recording Mode	1	
S4, 5	SSL123		Switch, Fm muting/Mode & Loudness	2	
S6, 7	SSL119		Switch, High & Low Boost/Filter	2	○
S8, 9	SSH223S		Switch, Main & Remote Speakers	1	
S10, 11	SSH219S		Switch, Power Display Range	1	
S1001	SSL103	S	Switch, Power Source	1	
S1002	ESE37200	S	Switch, Voltage Adjustment	1	

NOTES 2:

Guide letters of Resistor and Capacitor indicate;

Resistors
ERD. . . . Carbon
ERO. . . . Metal film
ERF. . . . Non-flammable
ERG. . . . Metal oxide
ERX. . . . Metal film
ERC. . . . Solid

Capacitors
ECC. . . . Ceramic
ECG. . . . Ceramic
ECQM . . Polyester
ECE. . . . Electrolytic

ECK. . . . .Ceramic
ECQP. . . Polypropylene
ECE□N. .Non-Polar Electrolytic

Ref. No.		Part No.
RESISTORS		
R1, 2		**ERD50TJ104**
R3		**ERD25TJ104**
R4		**ERD25TJ563**
R5		**ERD25TJ181**
R6		**ERD25TJ562**
R7		**ERD25TJ333**
R8		**ERD25TJ181**
R9		**ERD25TJ471**
R10		**ERD25TJ183**
R11		**ERD25TJ152**
R12		**ERD25TJ102**
R13		**ERD25TJ333**
R14		**ERD25TJ471**
R101		**ERD25TJ331**
R102		**ERD25TJ102**
R103		**ERD25TJ331**
R104		**ERD25TJ103**
R105		**ERD25TJ331**
R106		**ERD25TJ124**
R107		**ERD25TJ104**
R108, 109		**ERD25TJ331**
R110		**ERD25TJ103**
R111		**ERD25TJ392**
R112		**ERD25TJ562**
R113		**ERD25TJ272**
R114		**ERD25TJ680**
R115		**ERD25TJ181**
R116, 117		**ERD25TJ333**
R118		**ERD25TJ181**
R119		**ERD25TJ471**
R120		**ERD25TJ333**
R121		**ERD25TJ274**
R125		**ERD25TJ223**
R126		**ERC14GK825**
R202		**ERD25TJ392**
R203		**ERD25TJ152**
R204		**ERD25TJ333**
R205		**ERD25TJ274**
R206		**ERD25TJ272**
R207		**ERD25TJ471**
R208		**ERD25TJ181**
R210		**ERD25TJ152**
R301		**ERD25TJ101**
R302		**ERD25TJ122**
R303		**ERD25TJ123**
R304		**ERD25TJ102**

Ref. No.		Part No.
R306		**ERD25TJ101**
R310		**ERD25TJ153**
R311		**ERD25TJ104**
R401, 402		ERO25CKG6802
R403, 404		**ERD25TJ471**
R405, 406		ERO25CKG1803
R407, 408		ERO25CKG2703
R409, 410		**ERD25TJ153**
R411, 412		ERO25CKF1502
R413, 414		ERO25CKF1743
R415, 416		**ERD25TJ104**
R501, 502		**ERD25TJ152**
R503, 504		**ERD25TJ122**
R505, 506		**ERD25TJ682**
R507, 508		**ERD25TJ184**
R509, 510		**ERD25TJ123**
R511, 512		**ERD25TJ392**
R513, 514		**ERD25TJ222**
R515, 516		**ERG1ANJ472**
R517, 518	S	**ERD14FJ151**
R519, 520		**ERD25TJ824**
R525, 526		**ERD25TJ473**
R551, 552		**ERD25TJ222**
R553, 554		**ERD25TJ473**
R555, 556		**ERD25TJ823**
R601, 602		**ERD25TJ222**
R603, 604		**ERD25TJ274**
R605, 606		**ERD25TJ823**
R607, 608		**ERD25TJ103**
R609, 610		**ERD25TJ332**
R611, 612		**ERD25TJ271**
R613, 614		**ERD25TJ471**
R615, 616		**ERD25TJ683**
R617, 618		**ERD25TJ683**
R619, 620	S	**ERD14FJ100**
R621, 622		**ERG1ANJ102**
R623, 624	S	ERD12FJ472
R625, 626		**ERD25TJ271**
R627, 628		**ERD25TJ102**
R629, 630		**ERD25TJ391**
R631, 632	S	**ERD14FJ101**
R633, 634	S	**ERD14FJ101**
R635, 636	S	**ERD14FJ3R3**
R637, 638	S	**ERD14FJ3R3**
R639, 640	S	**ERD14FJ820**
R641, 642	S	**ERD14FJ820**
R643, 644		**ERX1ANJ5R6**

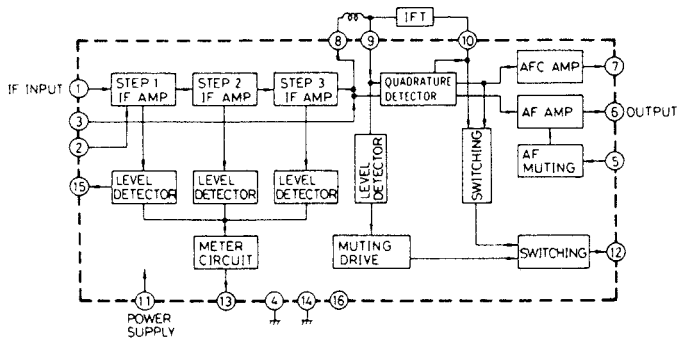
Ref. No.		Part No.
R645, 646	S	**ERF5AKR47**
R647, 648	S	**ERF5AK100**
R649	S	**ERD14FJ101**
R650	S	**ERD14FJ152**
R651	S	**ERD14FJ330**
R653	S	**ERD14FJ220**
R701	S	**ERD18FJ2R2**
R702		**ERD25TJ393**
R703	S	**ERD14FJ102**
R704	S	**ERF5SJ680**
R751		**ERD25TJ181**
R752		**ERG1ANJ821**
R753	S	ERD12FJ6R8
R755		**ERD25TJ181**
R756		**ERD25TJ100**
R801, 802		**ERG1ANJ152**
R803, 804		**ERG1ANJ221**
R805, 806		**ERD25TJ101**
R807, 808		**ERD25TJ222**
R809, 810		**ERD25TJ274**
R811, 812		**ERD25TJ223**
R813, 814		**ERD25TJ123**
R815, 816		**ERD25TJ562**
R817, 818		**ERD25TJ680**
R819, 820		**ERD25TJ822**
R821, 822		**ERD25TJ122**
R823, 824		**ERD25TJ101**
R825, 826		**ERD25TJ683**
R827, 828		**ERD25TJ273**
R830		**ERD25TJ102**
R831, 832		**ERD25TJ100**
R833, 834		**ERD25TJ273**
R835, 836		**ERD25TJ821**
R837, 838		**ERD25TJ821**
R839, 840		**ERD25TJ821**
R841, 842		**ERD25TJ152**
R843, 844		**ERD25TJ152**
R845, R846		**ERD25TJ821**
R847, 848		**ERD25TJ223**
R849, 850		**ERD25TJ273**
R901		**ERD25TJ562**
R902		**ERD25TJ683**
R903		**ERD25TJ153**
R904		**ERD25TJ564**
R905		**ERD25TJ273**
R906		**ERG2ANJ681**
R907	S	ERD12FJ222
R908	S	**ERD14FJ222**

Ref. No.		Part No.
R909, 910		**ERD25TJ183**
R911		**ERD25TJ153**
R912		**ERD25TJ473**
R913		**ERD25TJ682**
R914		**ERD25TJ473**
R1001, 1002		**ERG2ANJ331**
R1101, 1102		**ERD25TJ394**
R1103, 1104		**ERD25TJ104**
R1105 ~ 1108		**ERD25TJ472**
CAPACITORS		
C1, 2		ECCD1H150KC
C3		ECCD1H120KC
C4		ECCD1H220KC
C5		ECCD1H180KR
C6		ECCD1H030CC
C7		ECKD1H102MDA
C8		ECCD1H050CC
C9		ECCD1H181K
C10		ECKD1H103ZF
C11		ECCD1H0R5CC
C12		ECCD1H020CC
C13		ECCD1H070DC
C14		ECCD1H390KC
C15		ECCD1H150KC
C16		ECKD1H102ZF
C17		ECCD1H180KR
C18		ECKD1H223ZF
C19		**ECEA1CS331**
C101, 102		ECKD1H223ZF
C104		**ECEA2AS3R3**
C105		ECCD1H680K
C106		**ECEA2AS010**
C107		ECCD1H020CC
C108, 109		ECKD1H223ZF
C110		**ECEA1HS100**
C111		ECKD1H223ZF
C112		ECKD1H103ZF
C113		ECKD1H223ZF
C114		**ECEA1AS331**
C115		**ECEA2ASR47**
C116		ECKD1H103ZF
C201		ECKD1H103MD
C202		**ECEA1CS330**
C203		**ECEA2AS3R3**
C204		ECQM1H473KZ
C205		ECQM1H223KZ
C206		**ECEA2ASR47**
C207		ECKD1H103ZF
C208		ECKD1H102ZF

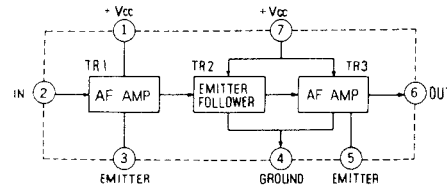
Ref. No.		Part No.
C301		ECQM1H473KZ
C302		**ECEA1ES470**
C303		ECQS05471JZ
C304		**ECEA50ZR22**
C305		**ECEA50ZR47**
C306		**ECEA50MR47R**
C307, 308		ECQM1H333JZ
C309, 310		ECQM1H332KZ
C311, 312		ECKD1H331KB
C313, 314		**ECEA50ZR33**
C315		**ECEA1ES470**
C316		**ECEA2AS3R3**
C317		ECQM1H272KZ
C318, 319		**ECEA50Z3R3**
C320		**ECEA2AS3R3**
C401, 402		**ECEA50M3R3R**
C403, 404		**ECEA1AS101**
C405, 406		ECKD1H331KB
C407, 408		ECQP1472GZ
C409, 410		ECQP1183GZ
C411, 412		**ECEA50M1R**
C413		**ECEA1HS221**
C501, 502		ECQM1H182KZ
C503, 504		ECQM1H123KZ
C505, 506		ECQM1H223KZ
C507, 508		ECQM1H823KZ
C509, 510		ECQM1H334KZ
C511, 512		ECCD1H220K
C513, 514		ECQM1H103KZ
C515, 516		ECQM1H223KZ
C520		**ECEA1AS101**
C551, 552		ECQM1H473KZ
C553, 554		ECKD1H331KB
C601, 602		**ECEA50M4R7R**
C603, 604		ECCD1H820K
C605, 606		ECCD1H101K
C607, 608		ECCD1H331K
C609, 610		ECCD1H010K
C611, 612		**ECEA1CS330**
C613, 614		**ECEA1AS470**
C615, 616		**ECEA1HS101**
C617, 618		ECCD1H330K
C619, 620		ECKD1H103ZF
C621, 622		ECKD1H102ZF
C623, 624		ECKD1H102KB
C625, 626		ECCD2H101K
C627, 628		ECCD2H101K
C629, 630		ECQM1H473KZ
C631		**ECEA1JS101**

Ref. No.		Part No.
C632		**ECEA1VS330**
C633		**ECEA1JS331**
C634		**ECEA1JS221**
C701, 702		ECET55R153ZX
C703, 704		ECKD1H103ZF
C705		**ECEA1JS471**
C706		**ECEA1HS470**
C707, 708		**ECEA1HS221**
C709		ECKD1H103ZF
C751		ECKD1H103ZF
C752		**ECEA1CS471**
C753		ECKD1H103ZF
C754		ECKD1H333ZF
C801, 802		**ECEA2AS010**
C803, 804		**ECEA1HS100**
C805, 806		**ECEA2AS2R2**
C807		**ECEA1HS100**
C808		ECKD1H103ZF
C809, 810		**ECEA1HS100**
C811		**ECEA2ASR47**
C812		**ECEA1CS330**
C901		ECKD1H103ZF
C902		**ECEA50Z2R2**
C903		**ECEA1AS101**
C904	S	**ECEA16N220V**
C905		**ECEA1VS101**

■ BLOCK DIAGRAM OF INTEGRATED CIRCUITS

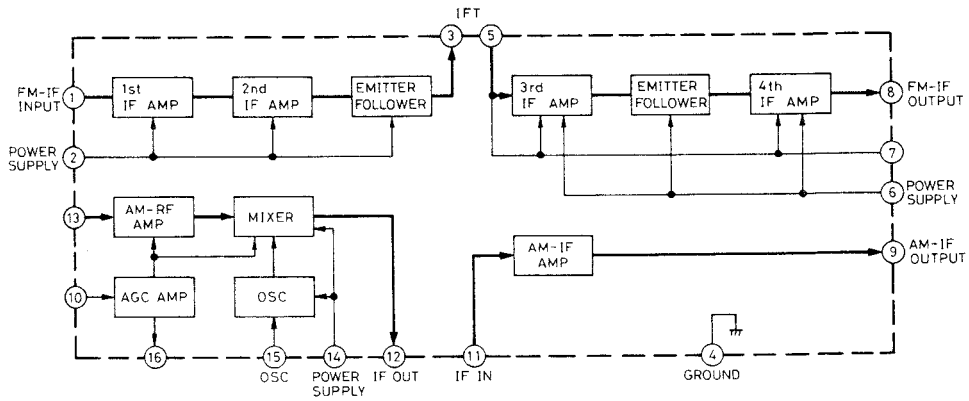


IC101 (AN377)
FM IF Amplifier & Detector

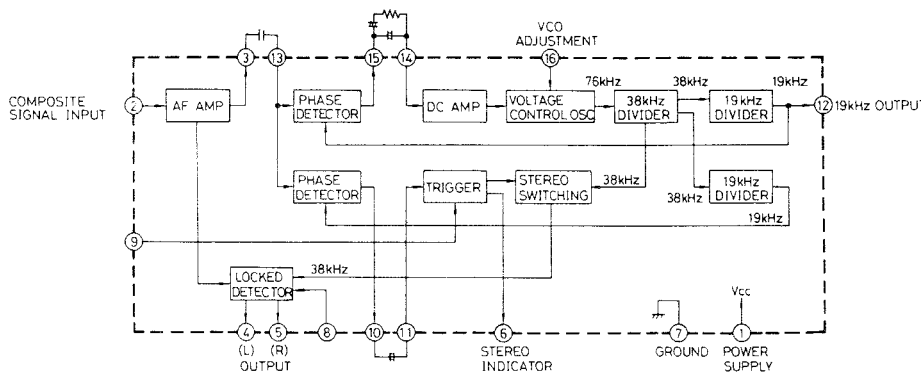


IC401, 402 (SVITA7129P)
Equalizer Amplifier

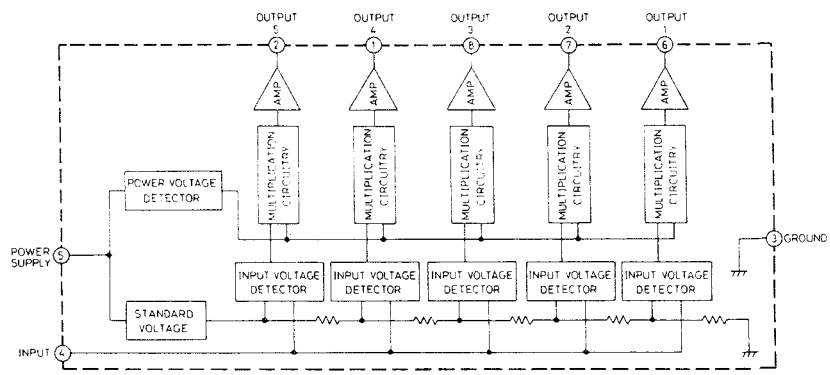
IC201 (AN217)
FM 2 Steps IF Amplifier
& AM Converter

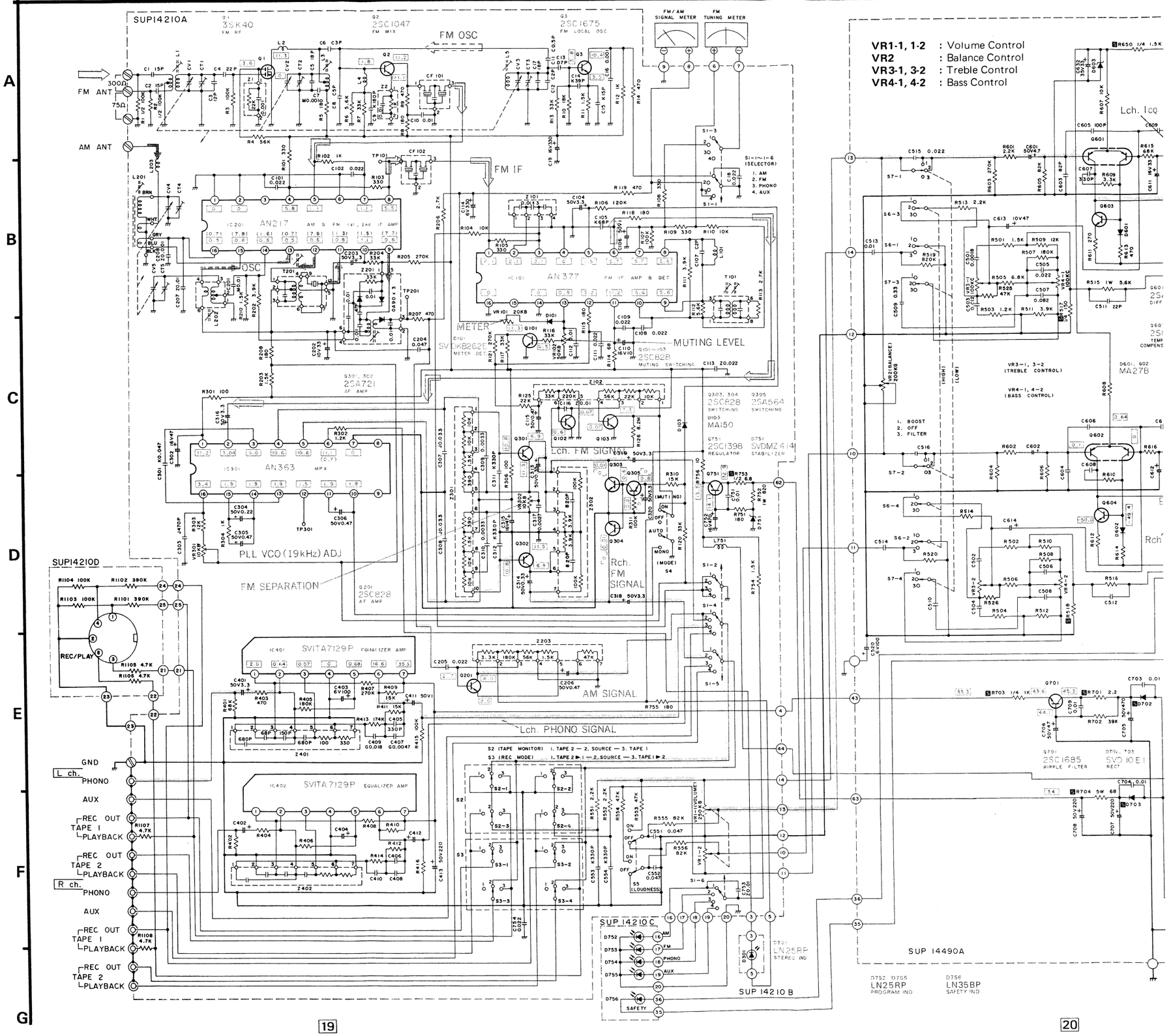


IC301 (AN363)
FM MPX

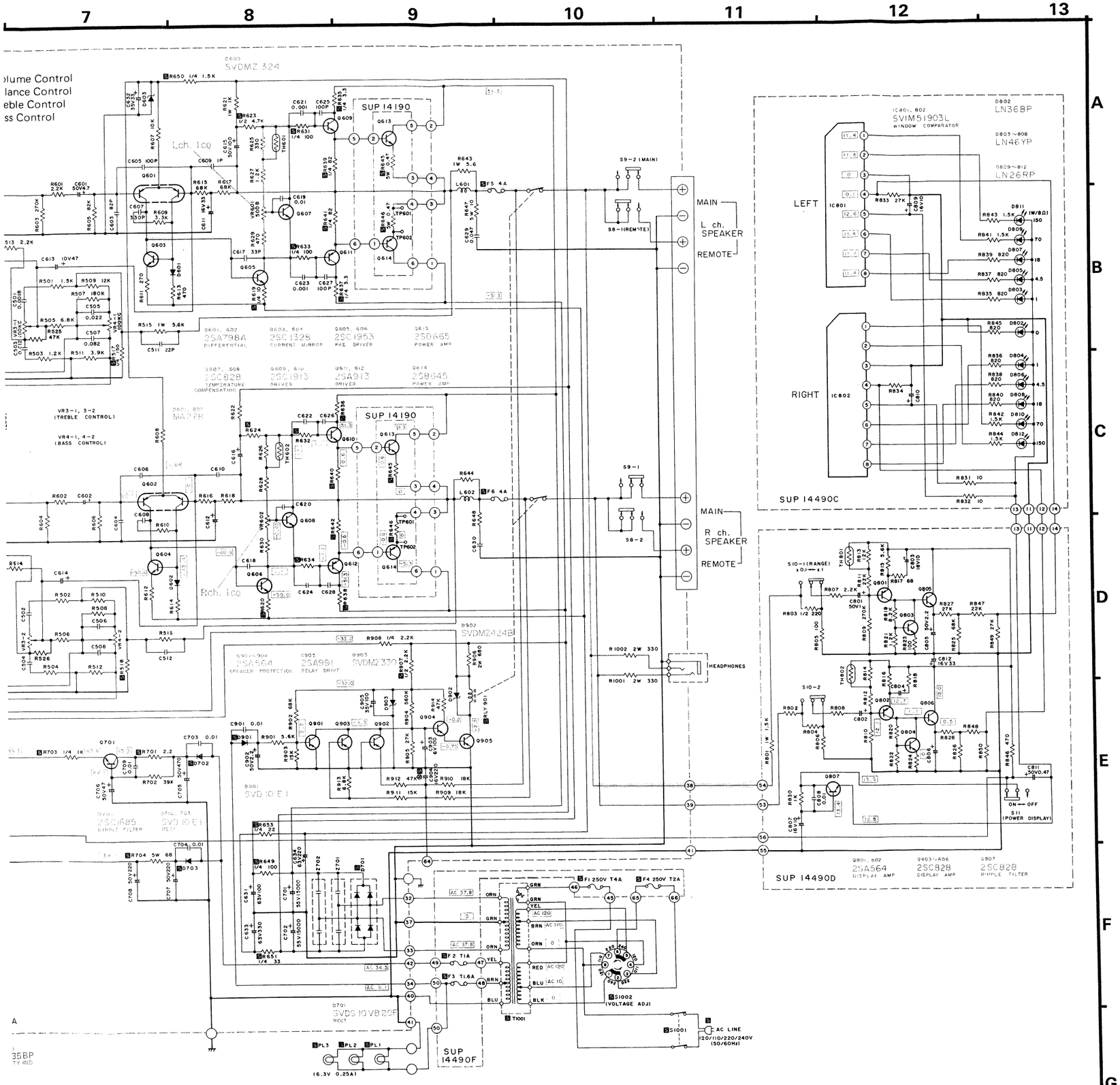


IC801, 802 (SVIM51903L)
Window Comparator




SUP14210A
Q1 3SK40 FM RF
Q2 2SC1047 FM MIX
Q3 2SC1675 FM LOCAL OSC
FM OSC
FM/AM SIGNAL METER
FM TUNING METER
FM ANT 300Ω 75Ω
AM ANT
FM IF
IC201 AN217 AM & FM 1st, 2nd IF AMP
OSC
IC101 AN377 FM IF AMP & DET
METER
D101 SVD KB262E METER DET
MUTING LEVEL
Q101~103 2SC828 MUTING SWITCHING
Q301, 302 2SA721 IF AMP
IC301 AN363 MPX
PLL VCO (19kHz) ADJ
FM SEPARATION
Q201 2SC828 AF AMP
Lch. FM SIGNAL
Q303, 304 2SC828 SWITCHING
Q305 2SA564 SWITCHING
D103 MA150
Q751 2SC1398 REGULATOR
Q751 SVDM2414 STABILIZER
Rch. FM SIGNAL
AM SIGNAL
Lch. PHONO SIGNAL
SUP14210D
REC/PLAY
GND
L ch. PHONO
AUX
REC OUT TAPE 1 PLAYBACK
REC OUT TAPE 2 PLAYBACK
R ch. PHONO
AUX
REC OUT TAPE 1 PLAYBACK
REC OUT TAPE 2 PLAYBACK
IC401 SVITA7129P EQUALIZER AMP
IC402 SVITA7129P EQUALIZER AMP
S1-1~1-6 (SELECTOR) 1. AM 2. FM 3. PHONO 4. AUX
S2 (TAPE MONITOR) 1. TAPE 2 — 2. SOURCE — 3. TAPE 1
S3 (REC MODE) 1. TAPE 2 ▶ 1 — 2. SOURCE — 3. TAPE 1 ▶ 2
S4 (MODE) MONO AUTO
S5 (LOUDNESS)
SUP14210C
D752 AM
D753 FM
D754 PHONO
D755 AUX
D756 SAFETY
D751 LN25RP STEREO IND
SUP14210B
VR1-1, 1-2 : Volume Control
VR2 : Balance Control
VR3-1, 3-2 : Treble Control
VR4-1, 4-2 : Bass Control
Lch. Ico
VR3-1, 3-2 (TREBLE CONTROL)
VR4-1, 4-2 (BASS CONTROL)
1. BOOST 2. OFF 3. FILTER
D601, 602 MA27B
Rch
Q701 2SC1685 RIPPLE FILTER
D702, 703 SVD10E1 RECT
D704 SVD10E1 REGULATOR
SUP 14490A
D752 D755 LN25RP PROGRAM IND
D756 LN35BP SAFETY IND

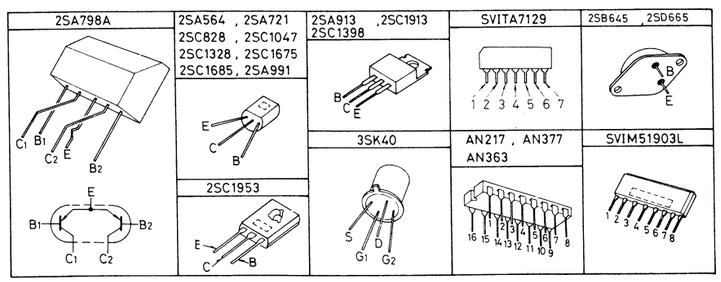
Schematic Diagram ... Model SA-600



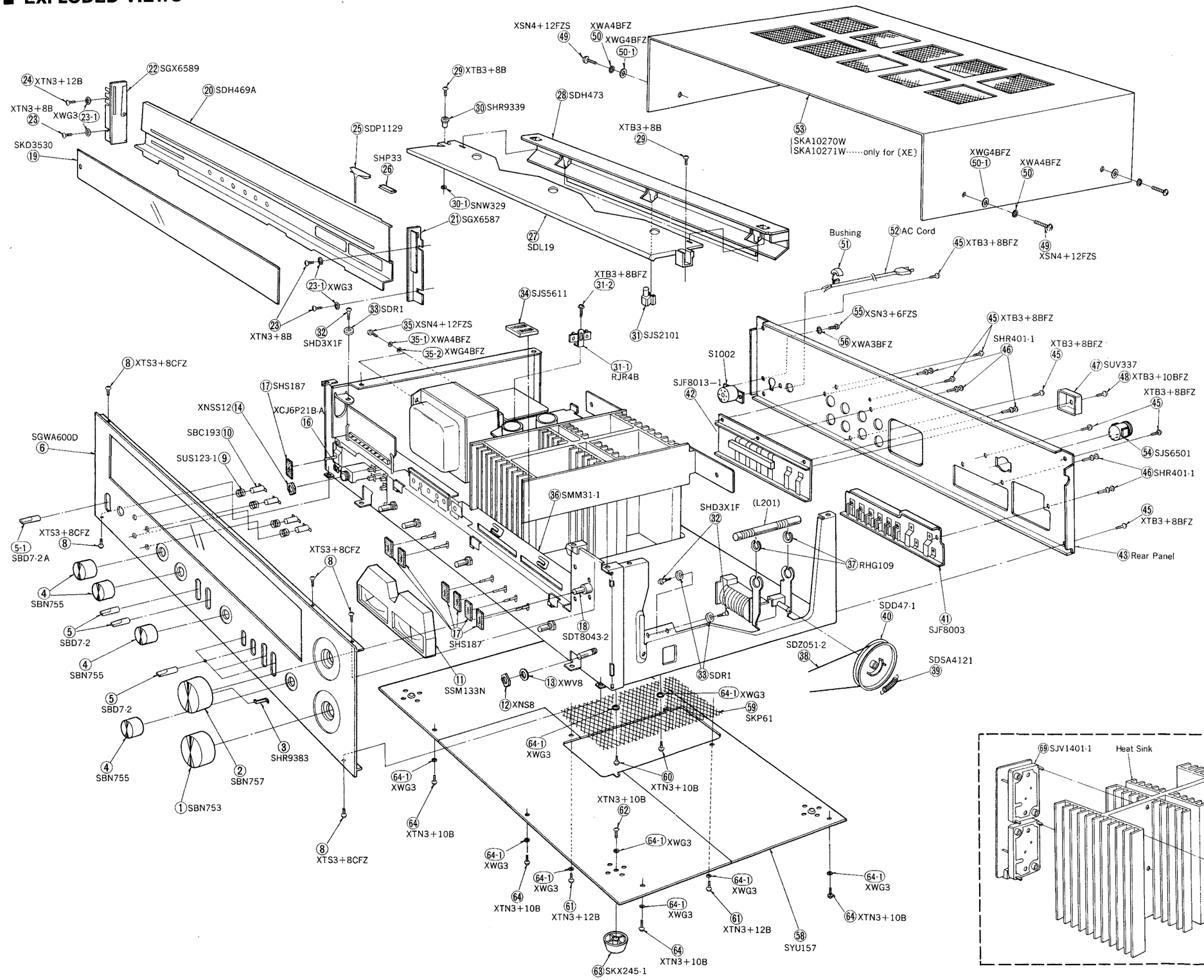
Notes:

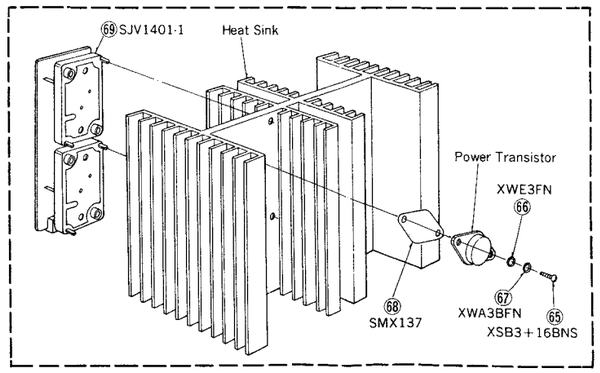
1. **S1-1 ~ S1-6** : Selector switch in **"AM"** position.
   ① AM ↔ ② FM ↔ ③ PHONO ↔ ④ AUX
2. **S2** : Tape Monitor switch in **"SOURCE"** position.
   ① TAPE 2 ↔ ② SOURCE ↔ ③ TAPE 1
3. **S3** : Recording mode switch in **"SOURCE"** position.
   ① TAPE 2 ▶1 ↔ ② SOURCE ↔ ③ TAPE 1 ▶2
4. **S4** : FM muting/Mode switch in **"ON/FM AUTO"** position.
5. **S5** : Loudness switch in **"OFF"** position.
6. **S6-1 ~ S6-4** : Acoustic high switch in **"OFF"** position.
   ① BOOST ↔ ② OFF ↔ ③ FILTER
7. **S7-1 ~ S7-4** : Acoustic low switch in **"OFF"** position.
   ① BOOST ↔ ② OFF ↔ ③ FILTER
8. **S8-1, S8-2** : Remote speakers switch in **"OFF"** position.
9. **S9-1, S9-2** : Main speakers switch in **"ON"** position.
10. **S10-1, S10-2** : Power display range switch in **"X1"** position.
11. **S11** : Power display switch in **"ON"** position.
12. **S1001** : Power source switch in **"ON"** position.
13. **S1002** : Voltage adjustment switch in **"240V"** position.
    240V ⟷ 220V ⟷ 110V ⟷ 120V
14. Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.
    ▭ Not apply signal to set and muting switch to OFF condition
    ( ) AM signal reception.
    ⌐ ⌙ FM muting switch is turned on under no-signal condition.
15. AF Signal lines. ⟹ FM Signal lines ⟿ AM Signal lines.
16. This schematic diagram may be modified at any time with the developent of new technology.
17. **S** indicates that only parts specified by the manufacturer be used for safety.

■ TERMINAL GUIDE



■ EXPLODED VIEWS





■ RE

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■ REPLACEMENT PARTS LIST ..... Cabinet & chassis parts

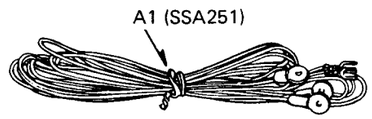
NOTES 1: 1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
2. [S] indicates that only parts specified by the manufacturer be used for safety.

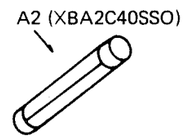
Ref. No.	Part No.		Part Name & Description	Per Set	Remarks
			CABINET and CHASSIS PARTS		
1	SBN753		Knob, Volume	1	
2	SBN757		Knob, Tuning	1	
3	SHR9383		Spacer, Tuning Knob	1	
4	SBN755		Knob, Bass, Treble, Balance & Selector	4	
5	SBD7-2		Knob, Lever Switches	6	
5-1	SBD7-2A		Knob, Power Switch	1	
6	SGWA600D		Panel, Front Ass'y	1	○
8	XTS3+8CFZ		Screw, Front Panel M'tg	5	
9	SUS123-1		Spring, Push Switches	4	
10	SBC193		Button, Push Switches	4	
11	SSM133N		Meter, Signal & Tuning	1	
12	XNS8		Nut, Volumes & Selector	5	
13	XWV8		Washer, Volumes & Selector	5	
14	XNSS12		Nut, Headphones Jack M'tg	1	
16	XCJ6P21B-A		Headphones Jack	1	
17	SHS187		Shading Cloth, Lever Switches	7	
18	SDT8043-2		Shaft, Tuning Ass'y	1	*
19	SKD3530		Scale, Dial	1	*○
20	SDH469A		Plate, Dial	1	*○
21	SGX6587		Bracket, Dial Scale Right Side	1	○
22	SGX6589		Bracket, Dial Scale Left Side	1	○
23	XTN3+8B		Screw, Dial Scale Bracket M'tg	3	
23-1	XWG3		Washer	4	
24	XTN3+12B		Screw, Dial Scale Bracket M'tg	1	
25	SDP1129		Pointer, Dial	1	*○
26	SHP33		Sheet, Pointer Slider	1	○
27	SDL19		Reflector Plate	1	○
28	SDH473		Reflector Plate	1	*○
29	XTB3+8B		Screw, Reflector Plate M'tg	2	
30	SHR9339		Spacer, Reflector Plate Screw	1	
30-1	SNW329		Washer	1	
31	SJS2101		Socket, Pilot Lamp	3	
31-1	**RJR4B**		Terminal Strip, 2 pin	1	
31-2	XTB3+8BFZ		Screw, Capacitor Bracket M'tg	1	
32	SHD3X1F		Screw, Pulley M'tg	4	*
33	SDR1		Pulley, Dial Cord	4	
34	SJS5611		Connector, 6 pin	1	
35	XSN4+12FZS		Screw, Power Transformer M'tg	4	
35-1	XWA4BFZ		Washer, Spring	4	
35-2	XWG4BFZ		Washer	4	
36	SMM31-1		Bracket, Meter	1	*○
37	RHG109		Rubber Cushion, AM Bar Antenna	2	
38	SDZ051-2		Cord, Dial 200cm (78-3/4")	1 roll	
39	SDSA4121		Spring, Dial Cord	1	
40	SDD47-1		Drum, Variable Capacitor	1	
41	SJF8003		Terminal, Input & Antenna	1	
42	SJF8013-1		Terminal, Speakers	1	
43 (XE, DG) only	SGPA600E		Rear Panel, SGP1410A with Name Plate (SGT16850)	1	○
43	SGP1410A		Rear Panel	1	○
45	XTB3+8BFZ		Screw, Rear Panel M'tg	9	
46	SHR401-1		Latch, Speakers & Input Terminal M'tg	6	
47	SUV337		Cover, Speaker Fuses	1	*
48	XTB3+10BFZ		Screw, Speaker Fuse Cover M'tg	1	
49	XSN4+12FZS		Screw, Cabinet M'tg	4	
50	XWA4BFZ		Washer, Spring	4	
50-1	XWG4BFZ		Washer	4	
51 (XE) only	SHR129		Bushing, AC Cord	1	
51	SHR127		Bushing, AC Cord	1	
52 (XSW) only	SJA111	[S]	AC Cord, Power Source (with Plug)	1	
52 (XE) only	RJA45ZC	[S]	AC Cord, Power Source	1	
52	SJA97	[S]	AC Cord, Power Source (with Plug)	1	
53	SKA10270W		Cabinet, Black Colour	1	○
53 (XE) only	SKA10271W		Cabinet, Brown Colour	1	○
54	SJS6501		Socket, DIN (Tape deck REC/PLAY)	1	
55	XSN3+6FZS		Screw, Voltage Adjuster M'tg	2	
56	XWA3BFZ		Washer, Spring	2	
58	SYU157		Bottom Board	1	○
59	SKP61		Ventilation Plate, Bottom Board	1	○
60	XTN3+10B		Screw, Ventilation Plate M'tg	2	
61	XTN3+12B		Screw, Ventilation Plate M'tg	2	
62	XTN3+10B		Screw, Set Foot M'tg	4	
63	SKX245-1		Foot, Set	4	
64	XTN3+10B		Screw, Bottom Board M'tg	7	
64-1	XWG3		Washer	15	
65	XSB3+14BNS		Screw, Power Transistors M'tg	8	
66	XWE3FN		Washer, Power Transistors Screw	8	
67	XWA3BFN		Washer (Spring), Power Transistors Screw	8	
68	SMX137		Mica Plate	4	○
69	SJV1401-1		Socket, Power Transistors	4	

Ref. No.	Part No.		Part Name & Description	Per Set	Remarks
			ACCESSORIES		
A1	SSA251		Cord, FM Indoor Antenna	1	
A2	XBA2C40SS0	[S]	Fuse, 4A (250V) Speaker Circuit	2	
			PACKING PARTS		
P1	SPP567		Polyethylene Bag	1	
P2	SPS1733		Pad, Right & Left Side	2	○
P2 (XE, XSW) only	SPS1735		Pad, Right & Left Side	2	○
P3	SPS1639		Pad, Left Side	1	○
P3 (XE, XSW) only	SPS1639-1		Pad, Left Side	1	○
P4	SPS1641		Pad, Right Side	1	○
P4 (XE, XSW) only	SPS1641-1		Pad, Right Side	1	○
P5	SPG1551		Carton Box	1	○
P5 (XGF) only	SPG1553		Carton Box	1	○
P5 (XE, XSW) only	SPG1555		Carton Box	1	○
P6	SQF1935		Instructions Book, Printed Matter	1	○

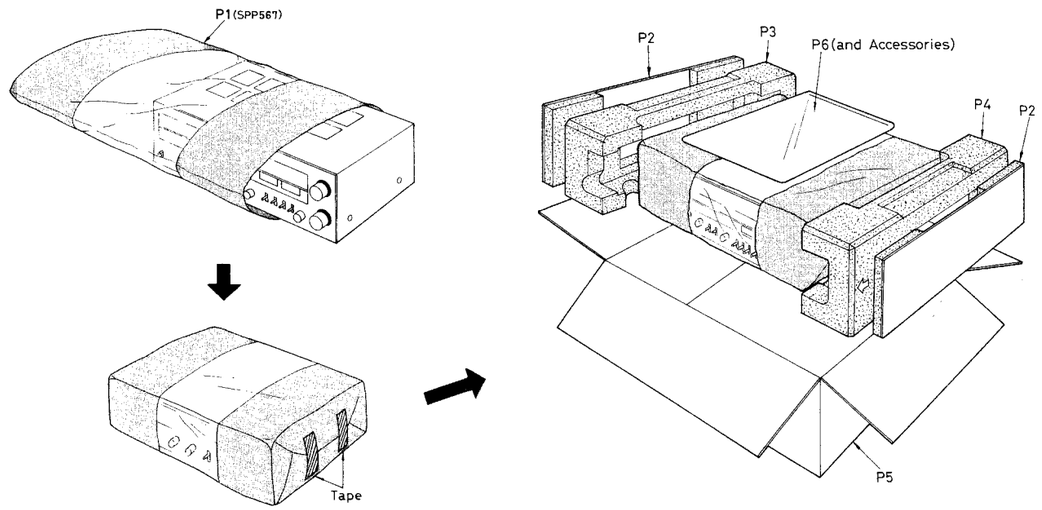
NOTES 2:
* (D) and (DG) are available in Scandinavia and European only.
* (XGH) is available in Holland only.
* (XGF) is available in France only.
* (XSW) is available in Switzerland only.
* (XE) is available in United Kingdom only.

■ ACCESSORIES





■ PACKINGS



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